

Dairying Exemplified.



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The BUSINESS of CHEESE-MAKING:

Laid down from approved Rules, collected
from the most experienced Dairy-Wo-
men, of several C O U N T I E S.

Digested under various Heads.

From a Series of Observations,
during *Thirty Years* Practice in the
C H E E S E T R A D E.

By J. T W A M L E Y. *K.*

The SECOND EDITION, Corrected & Improved.

W A R W I C K:

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P R E F A C E.

IF a Dedication, or Introduction to the following Work should be thought necessary, I most humbly, and justly address it to the excellent DAIRY-WOMEN, of *Great Britain*; duly sensible, that from them I received the first hints that led me to the performance, and without whose assistance and encouragement, joined with my own knowledge and experience, I should never have offer'd it to the Public.

The real design of this Work, is to assist those who are not fully acquainted with the most proper methods, necessary to be used in the management of a DAIRY; I have made it my endeavour to render every part as plain and intelligent as possible, and am in hopes upon a

due Observation of the rules laid down many will find their account in it. It is my sincere wish, that it may be a means of improving the quality, as well as enlarging the quantity of CHEESE, through the Kingdom; and become extensively useful to the community in general.

As the Publication of this Work has met with a very ready sale, & been much approved of in general, and many who have carefully apply'd the rules for Dairying therein laid down, have deriv'd great advantage from it, which the Author has by many, been inform'd of; encourages him to print a second Edition, and having omitted the other treatises upon *Orchards* and *Vegetation*, in order to bring the price more moderate, hopes that, will cause it to be more read by DAIRY-WOMEN, who if they pay a due attention to it, cannot help receiving benefit from the advice it contains.



Dairying Exemplified, &c.

IT has been the wonder of many People, who are interested in the Article of Cheese, either as Makers or Dealers; that no Treatise or Book of rules, or method of making Cheese, hath ever been attempted; or the business of it examined, so as to direct those who are concerned as Dairywomen, or have the chief management in Dairys, to become proficients therein.

The great number of inferior Dairys there are, in comparison to the few, that are excellent in their kind, or even what are called good Dairys; every person who is much concerned in the Cheese Trade, is well convinced of; and 'tis evident to a nice observer of the different, yea, very different qualities of Cheese produc'd in different Dairys, or even in the same Dairys, when either the Dairy-maid is

changed, or the usual method of Cheese-making, by the Mistress or manager of each Dairy, is not strictly adhered to. A Remedy for this great deficiency is looked upon as an affair of great moment, especially by those, whose lot it is to be fixed in the Cheese Trade in a considerable Dairy Country, where large quantities of Cheese, are annually bought; and where, was Cheese-making in equal repute, or the real quality of Cheese, equal in goodness to some neighbouring Counties, a much larger quantity would certainly be made, and what would be a great encouragement both to the makers and buyers of it, a better price would be procured for the same Article, and a much readier Sale, than when of an inferior quality.

Besides which, it is very clear that many People do not, for want of a proper method, make near so much Cheese, from the same quantity of Milk, as others do; or as even themselves might do, if a more proper method was pursued. These considerations, having always been clearly apparent, have from time to time, and as oft as an opportunity

tunity of attaining any knowledge, in the business of making good Cheese hath offered; led the Author of the following Treatise, to collect, weigh, and investigate every particular circumstance leading to improve the said art, or business; and hath enabled him from time to time, to assist, and help many, by his advice and directions, to rectify and amend many faults, and deficiencies, in the method, they followed; and many have by such directions, greatly improved their Dairys. And from constant experience and seeing the improvements, and the effects produced from every different method practised or explained, by such as he found most experienced, or best informed, for the space of Thirty Years and upwards, he never fail'd to avail himself; this hath constantly led him to scrutinize into the real cause, of every impediment, or fault, in the method of making Cheese, from the first step, or Milking the Cows, to the compleating or removing the Cheese for Sale. And to point out a remedy to each complaint upon rational principles, as far as they appear to him, and are confirmed by the opinion of others

others, who have been in the way of making observations of the same nature, and who give every encouragement to the Author to make such improvements Public, for the general good. I am well acquainted, how unthankful an office it is, to attempt to instruct or inform Dairy-women, how to improve their method, or point out rules, which are different from their own, or what hath always been practised by their Mothers, to whom they are often very partial, as having been esteemed the best Dairy-women of their time, and even when they have imperceptably alter'd their method, by shortening the time in gathering the Cheese, which is a term generally given for collecting the Curd at the bottom of the Tub or Pan, after the runnet or rendless has done its duty, or by putting a larger quantity of runnet into the Milk to hasten the coming of the Cheese, which alteration, though often not observed by the Dairy-maid, or Mistress, is of very material importance, and is what I shall endeavour to explain, in as concise a manner as possible. I doubt not, the same reflection will occur to

the minds of some few on reading my Book; as hath often done upon occasion, when I have in a Dairy, met with any particular impediment in their Cheefe, which the Dairy-woman would fairly acknowledge she could not account for, and hath tried every means she could think of to rectify without success; saying, what does he know of Dairying, or how should a Man know any thing of Cheefe making?

But let these remember, that I have had frequent opportunities, of consulting the best of Dairy-women, in many Counties, who I knew from experience did know how to make good Cheefe, and in order to have it in my power to inform such as did not know how, I have taken great pains, to inform myself, as many now living, in both situations can testify.

The principal faults that cause these difficulties to Dairy-women are, Hove Cheefe, Spongey, full of Eyes, Whey Springs, Jointed or Shook Cheefe, Split Cheefe, Loose Cheefe, or Cheefe made of unsettled Curd,
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Rank or strong Cheefe, Flying out or Bulging at the Edges, Dry-cracks or Husky Coated Cheefe, Blistering in the Coat, Blue Pared, or Decayed Cheefe, Sweet or Funkey Cheefe, Curdled or four Milk Cheefe, and sometimes ill Smelling Cheefe, from tainted Mawskins, from distemper'd Cattle, or some other cause, which by a strict observer may be accounted for. Before a certain cure can be found out or applied, you must be acquainted with the nature, and cause of the complaint, or if by any accident, you hit upon a remedy, it may perhaps be a partial one, or such as will not answer at all times, or in all Dairys, by reason the complaint is from a certain fixt cause, and which cause will at all times and in all places produce that effect; when perhaps, the remedy apply'd may only be proper in some particular Dairys, owing to Herbage, very rich Pasture or very Poor, to Clover ground, or ground given to Noxious Weeds, Plants, or Trees, which the Cows eat of; each of which if not known or considered will produce a different effect, some of which effects may be

be fimilar in appearance to complaints in other Dairys produced from different caufes, the knowledge of which will be of great ufe, to every Dairy-woman, or maker of Cheefe to know, as the operation of the work, or management and care of the Cheefe when made, muft neceffarily fall to their lot.

What relates to Pafturnage; or the quality of Land for Grafs, the produce of the Land regarding Plants, Weeds, or Grafs of different kinds, falls more immediately under the eye or care of the Mafter, or Farmer of the Land; and from observing from time to time, the ftate of the Dairy, the Taft of the Cheefe, fo far as it may be affected by any particular Herb, Weed, or Grafs; the fituation of the Cheefe in the Dairy Chamber, how it is affected in different Seasons by Heat, Cold, Damp or Dry Weather, to know what are the caufes of many general faults, or complaints in Cheefe, fuch as Heaving, Splitting, Jointing, Whey Spring, Ill Formed, or Sweet Cheefe, which often, when any of thefe happen in a Dairy,
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are produced by one general cause, and frequently go through the principal part of it, proceeding from the same neglect, or mismanagement. These difficulties or deficiencies, it is proper a Master should be acquainted with, as it often, I may say, too often happens, the Mistress leaves the care of the Dairy to Servants, especially the putting together the Milk, preparing the Runnet and putting it into the Milk, the standing of the Milk till it becomes Curd, and breaking or gathering it after it is come ; which is generally done by some common rule or method they have been used to, the method used by a former Mistress perhaps, who might be esteem'd a good Dairy-woman, and very likely undertook the management of the Dairy herself ; or at least so far as the essential part of the work extended ; paying a particular regard to the time of the operation of the Runnet, in bringing the Cheese, or of gathering the Curd, fixing, or setting it after it is come ; each of which require a minute exactness, and the principal error, or misfortune in Cheese making,
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is owing to these operations being too hastily performed, not giving time enough for the different effects to take place ; for if due regard is paid to making good Curd, you will very easily make good Cheese ; few people in any business make good Goods of bad Materials, tho' many of the most ignorant, when provided with good Materials, prepared for that purpose, will finish them in a Workman-like and Masterly manner ; so will many a Dairy-maid, make very handsome Cheese and take care of it, till it comes to be very good, and so as to give credit to the seller, as well as the vender of it, that has no consistent idea how the Runnet operates, or perhaps of the different states of the Curd, in its various stages, or even when it is in a proper state to begin the part of the work which usually falls to her share, of Breaking, Vatting, and preparing it for putting in the Press, which former part should be the care of the Mistress, or at least of some Person who does understand it, to prepare the Curd for them. The business of a Dairy, is of a considerable importance, and
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is in some Places, half, or nearly the whole income, or produce of a Farm. The difference is so great between a very good Dairy-woman, an inferior one, and a very bad one, as would surprize, even a judicious observer, and the following observations, which flow from what have happened in my own walks, will be apt to strike conviction on the minds of many, who have never applied their thoughts to the Theory of Dairying. The general way that the art of Dairying has been carried on for Ages, has been progressive, or traditional, being taught by Mother to Daughter, from common and continual experience; naturally adopting from time to time, the methods that appear'd best from such as have happened to come within their own knowledge; without ever calling in the assistance of either Philosophy, by which they might learn the different qualities, and effect of materials they use, or knowledge, how to apply them in a Physicall, or Practicall manner. And although the Author of this Treatise, is very conscious of the deficiency of his own knowledge; yet has
great

great hopes that from the desire of making himself useful to community, with the assistance of reason and common sense, he shall be able to render some assistance, to those he wishes to serve. A kind providence hath provided for all our wants; Nature, as Nature, is compleat in all its parts; we, often in trying to improve it, distort, or throw it into confusion; our Ideas being inadequate to the attempt. Where nature points out, or leaves any open for improvement, in the use of any of the common necessarys of Life, it is the duty of individuals to take the hint, and endeavour to explain them for Public good. The present System of Dairying, being in a very imperfect state, I am in hopes, my endeavours to render service and improvement, will not be found unnecessary.

A Cow, may I think justly be stiled, the most useful of all Animals, in regard to Man; Milk is a support to our Infancy and greatly contributes both to our comfort and support through Life, not only supplying our present wants, by that salubrious aliment, but our future wants, not only at

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home, but abroad ; by the Cheefe and Butter produced from it, it fupplies us, even with many luxuries in our tafte, is a great fupport to weakly conftitutions by its Veal, as well as a great fupport in the Article of Provisions, afforded when alive ; when Dead, is to us the grand ftamina of our Food, Beef, being the moft nourifhing and agreeable repaft ; it not only fupports us at home, but fupplies our Fleets, our Armies, our Garrifons and Iflands all over the World ; its Leather, fo ufe-ful for Shoes, for Implements of Husbandry, for Travelling, and for innumerable Conveniences ; its Hair for our Buildings and other purpofes ; its Tallow for our Light at Home and Abroad ; its Horns and Hoofs, and even its very Bones for our Implements, and various Materials of Trade. Were all its excellencies enumerated ; they would be very extenfive.

Milk, muft be allowed one of its moft ufe-ful productions ; it is given for our ufe in a pure, wholefome, and nutritive ftate ; capable of improvements, or alterations, of its nature, according to our different wants.

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In the Article of Cheese, and Butter, a great deal depends on the Art, Judgment, Care and Diligence of the Performer, and the good or bad qualities of each, chiefly depend on the skill and industry of the Dairy-woman. On a judicious observation you will find, that Milk is generally found even at different Seasons, to be of a regular and equal stamina, or quality, and in the same manner affected by different fluxings; by Salts, Liquids, Spirits, &c. at all times; the business of Cheese making, is a regular and constant proceeding, practised perpetually, every Day, time immemorial; and it seems strange, that when the ingredients you employ are so few, and their nature also so exceeding regular, and certain, that there can be much difficulty, in producing the Article of Cheese pure, and compleat; but daily experience convinces us, that there is an amazing difference in the goodness of Cheese, in-somuch that you can scarce find two Dairys that are exactly, or even very much alike; it does not occur to the knowledge of every one what that difference is, but to a Person who deals largely in it, and makes observations

upon it, must plainly appear; and though so few have ever attempted to scrutinize the nature of Cheese, or particularly of Cheese making, in a manner that yields conviction to its improvements; yet there is no reason, why that useful branch of knowledge cannot, or may not, be clearly explained.

The business has been in the hands of the Women hitherto, except in *Cheshire*, *Wilts*, some part of *Gloucestershire*, &c. where a large quantity of Cheese is made, a Man is employ'd as an assistant, the weight of a large *Cheshire* Cheese, being too great to be wrought by a Woman, and turning, rubbing, washing, and cleaning, is more than one Man can easily perform; 'tis common in large Dairys, to meet with Cheeses, Eighty, one Hundred, one Hundred and Twenty, or even one Hundred and Forty pounds a Cheese, which requires considerable strength to manage. In some part of *North-Wiltshire*, I am informed there are Dairys that make Twenty-five Tons in a Year; and some few more than that. A
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Gentleman told me, that being lately at *Bath*, he was informed of a Person within less than Twenty Miles, who Milk'd 200 Cows: Which led his curiosity to take a ride to see it, being a considerable Factor, who had frequent opportunity of buying Dairys of Four, Five, or Six Tons each; but had never met with any Dairy of that extent. On hearing the recital of it, led me to the same thought as would naturally strike him, viz. what sort of a House or Premises the Person must have to cure, spread or dispose of such a quantity of Cheese, to get it ready for Sale? When he came to the Place, he found the report was true, but then he milked these 200 Cows at three different Houses, in number proportionable to the convenience or situation of the Place. We often hear talk of *Cheshire* Dairys of 100 Cows each, which the largeness of the Cheese in a great measure accounts for. But what are called large Dairys in *Warwickshire*, *Leicestershire*, *Staffordshire*, or *Derbyshire*, is from 20 to 40 Cows each; in these parts, from general observations I have made, each Dairy may produce annually

nually on an average three Hundred Weight of Cheefe from each Cow, taking the Dairys in general. I am inclined to think more Dairys produce less than that quantity, than there are that produce more; but this is observable, much the greater number of Dairys, are on Tillable, or Arable Farms, where new Grass is introduced, which is always allowed to make less Cheefe than good old Turf; and the proportion of up-land Farms, is much greater than of low-land. I have weighed many times Four Hundred from a Cow, and some few Dairys which have produced Five Hundred from each Cow; but then in scrutinizing into the affair, I find it has been attended with particular circumstances, such as being situate, in an excellent Grass Country, where Meadows of dry Old Turf have been the Pasture, where clear streams of running Water have gone through the Meadows, affording always good Beverage for the Cows, as well as a cool retreat for them in Hot Weather; by which means their Milk was kept in a temperate state, while Cows on up-lands, perhaps scorched with heat, and not having the nourishing stream

stream to go to, or shade to protect them from the Sun, cause their gadding, or running about to such a degree, as prevented the increase of their Milk, in any proportion to what the running stream produced ; and throw'd the Cows into such a heat and disorder, that their Milk would not yield near the quantity of Curd, and caused many difficulties in making the Cheese, which the cooler Dairys were not exposed to, (especially, when under the hand of an unskilful Dairy-woman,) likewise, in these prolific Dairys, the owner made a point of never keeping a Cow that was too old Milcht, or Milk'd too long from the time of Calving, or when any Cow went off her Milk either by any accident, or otherwise ; then the Dairy-man always replaced her with a new Milcht one, either drying the old Milcht one for feeding, or disposing of her. That so the Dairy by that means was kept in full vigour through the Grass Season. The number of these Dairys is so very few and rare, they can only at most show the World what may be done. I have been told by a *Wiltshire* Factor, that the Land in their

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principal Dairy Country, is so Rich and Good that it is not very uncommon there for prime Dairys to yield five Hundred of Cheese from a Cow ; but then there is also every Advantage in their Favour ; such as (I believe no body who judgeth from the goodness of their Cheese, but must allow) the best of Dairy-women, who have been regularly bred to it from their Childhood, it generally being almost the sole employ of the Farm, and those Dairy-women led on by the greatest and most powerful emulation, of selling for the highest Price. Their Cheese being generally sold, retail, at a penny, and often two-pence per Pound, more than good Cheese in common. Their Cheese, that is made in the prime of the Season, generally known in the country by the name of *Marlborough* Cheese, being much brought to Fairs by *Marlborough* Factors, or People residing not far from thence. Or in *London*, by the name of *North-Wiltshire* Cheese, which always bears the greatest Price of any Dairys, except those of *Gloucestershire* ; which, even the finest of *Barclay Hundred*, do scarce come up to : And I believe by
many

many judicious People, some of the *Wiltshire* Dairys are even allowed to excel. Likewise, in many very principal Dairys, they have this great Advantage; where Gentlemen in some places, occupying a large tract of Ground, or Lordship, either themselves, Stewards, Bayliff, or some other Person for them, Stock the whole or chief Part with Milking Cows, which they are very particular to get to come in, or calve, by the Time Grass is in Vigour. Then these Dairy People agree with them for the Milk of such a number of Cows, as they can manage at a given Price per Week. The Gentleman, Bailiff, &c. engaging, that if any Cow fails in her Milk before a given Time, that he will take her away and replace her with a new Milcht one, by which means their Dairys are always in full Power all Summer; and then they engage for the Winter Dairy, at a Price proportioned to the state of the Cows, either new, or old Milcht, by which means they are certainly enabled to make a larger quantity of Cheese than any common Dairy, or Land of inferior kind without these Advantages. And in many

ny Dairys they make Cheefe all the Year, as the quantity of Winter Cheefe, and Fodder Cheefe, sent to *London* Markets clearly shews.—Much depends on the situation of Dairy-ground, being nearer, or farther from the House, where the Cheefe is made ; as Cows being driven any considerable distance to be Milked, causeth the Milk to Heat in their Udders in Summer-time ; Milking them in the Field and carrying the Milk on Horse-back in Churns, or Barrels to much Distance, I take to be still worse, as that perpetually disturbs the Milk, inclining it to the nature of Churning Cream for Butter, and the operation performed upon it, is quite of a different nature, as it is for a different purpose or design, and if Milk is put in a violent Motion by carrying, it makes it in some degree partake of the nature of Churning, insomuch, that you often observe round the Bung, Plug, or Stopple of the Churn, a Froth or Scum, work out by force of Air, or Motion in carrying, that very nearly partakes of the nature of Butter, which plainly shews that the Body of Milk, cannot be in a proper State to make Cheefe with

with, as Butter is produced by violent Motion, and the making of Cheese from a state of Rest, being directly opposite. I take it that oftentimes in very Hot Weather, the Milk in a Cow's Udder, much agitated by driving, or running about, is in a state not very far different from that carried in a Churn, which frequently makes the great difficulty in what is called bringing the Cheese or fixing the Curd in the Tub, or Pan ; I have often heard Dairy-women say that tis sometimes very difficult to make it come at all, and instead of one Hour, (the Time very commonly given by Dairy-women, in bringing the Cheese,) that it will frequently not come in Three, Four, or Five Hours; and then in such an imperfect state, as to be scarce capable of being confined either in the Cheese-Vat or Press, and when released from the Press, will heave, or puff up, by Splitting or Jointing, according as the nature or state of the Curd happens to be. Whenever People find their Cows in this situation which in Hot Summer Evenings must often happen, especially, where Water is scarce, or in Grounds where there is very little
Shade

Shade; then it is, that making use of a little cold Spring Water before earning, or rendling, is useful; as that will make the Runnet take effect & the Milk co-agulate much sooner. It often happens, in some Dairys, that the Work is quite at a stand, the Dairy-woman not knowing how to hasten the co-agulum, or coming of the Cheese, thinks of putting more Runnet in, to forward it; but the nature of Runnet being such, as will dissolve the Curd, in part co-agulated, if more is put in; disturbs the whole, and prevents its becoming Curd at all, or, in a very imperfect manner, remaining in the Whey, in an undigested state that will neither turn to Curd or Cream, and a principal part of the richest of the Milk is then cast away with the Whey. Cold Water, with a little Salt, (as hereafter recommended) will in a great measure prevent this difficulty, One great Point, or Thing to be observed, in first setting off, or rendling the Milk, is carefully to observe the state of the Milk, as to Heat or Cold; the grand medium, or state it should be in when you put the Runnet into it, is what may be properly understood, Milk-warm; if

if you find it to be warmer than that, it is recommended, to put some fresh Spring Water into it, in such quantity, as will reduce it to the Milk-warm state; a Quart, Two, Three, Four or more according to the quantity of Milk to be so cooled; many People may think Water will hurt the Milk or impoverish the Cheese; experience shews it will not, but is a means of the Runnet more immediately striking or operating with the Milk. I would recommend the use of a Thermometer, to shew the degree of Heat Milk bears. I doubt not one may be constructed on a very easy Plan, that will cost a very little Money, and it will be very well worth while to be at a small Charge, to regulate a fault, of putting Milk together too Hot, which is of more ill consequence than People are aware of. The same use holds good in putting Milk together for Butter; it is observed, that Milk being set up too Hot, will not throw up Cream near so well, as when in a temperate state, and causes it sooner to turn sour.*

* By the Term Milk-warm, is not here to be understood, the Warmth that it has on coming from the Cow, as that varies according to the Heat of the Body of the Cow, at the Time of Milking, but a Warmth, a few degrees removed from Coolness; a degree of Warmth, in general well understood.

As soon as the Milk is reduced to a proper warmth, and before you put the Runnet to it, it is an exceeding good way to put a handful or two of Salt into the Milk, or three or four handfuls if your quantity is large (I recommend about two handfuls to ten or twelve Cow's Milk ;) this will also cause the Runnet to Work quick, and giving a Saltnefs to the whole, will be a means of preventing Sweet, or Funkey Cheefe, as it will make the Cheefe all Salt alike, be a means to prevent Slip Curd, or Slippery Curd, make the Curd sink in the Tub more readily, and equally.* If your Milk is too Cold, let some Milk be warmed and put into it, to bring it to the state of Milk-Warm, observing not to warm a small quantity to make it boil, as boiling alters the nature of Milk in some degree ; scalding Heat is thought to set the Curd, making it Tough, that it is judged best, to warm a tolerable good quantity of Milk pretty warm, that it may give warmth to the whole in a sufficient de-

* Your Cheefe will afterwards want a less quantity of Salt, than if none had been put in the Milk ; enough to settle it, and make it firm in the Press, will be sufficient.

degree. Some-times you will find in Cold Weather, your Milk in the time of earning, get Chill; I have known in such a case, a Person take a Tea Kettle of Hot Water and put into it, with success; let it be when the Curd is nearly, or pretty well come, as then the Hot Water will give a Toughness to the Curd, to relieve it from the slippery nature it had acquired by being Chill, and that Chilness continuing to encrease, it is with difficulty you can bring your Cheese into a regular or fixed state. It is a very common way with many Dairy-women to allow the Milk to stand an Hour, in earning, or after the Runnet is put in, before it is gather'd, or sunk; many I fear content themselves with thinking it sufficiently come in less time, *But here* lies the greatest mischief in Cheese-making; the Milk is very often disturbed before its proper time, and sometimes when the whole is in a state of Slip Curd, or Slippery Curd, which is a state all Curd is in, before it becomes solid Curd, or Curd, fit to make Cheese with. You are always to observe that the state in which it is when you first stir or disturb it, in that state the Curd will

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remain ; it never improves as Curd, or becomes better Curd after it is disturbed or removed from its state of rest.

You will generally observe, that when you sink the Curd in the Tub, even when it is in a tolerable good state, as many imagine, there will bits of Slip Curd swim about in the Whey and not sink with the rest, till the Whey is laden from it : That slip Curd will not adhere to, or join with the solid Curd, and though ever so well broke or separated, yet in whatever state it is, when the Cheese is made, it all dissolves, or melts ; if a bit as big as a Nut happens together, it dissolves into a Whey Spring, runs out, and leaves a hole in the Cheese, which always decays in that place ; if a bit as big as a Pin's-head happens, it dissolves, and leaves an Eye in its place, and that is the cause of Eyes in Cheese ; if you cut the Cheese when young, you will find, that there is a Moisture, or Wet, in every Place where the Eye is after it is dried up, which Wet or Moisture is called Tears. *

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* This term, Tears, plainly indicates, that it has been usually understood in this light, being the Tears of the Eye.

When a large quantity of slip Curd is in a Cheefe, tis a long Time before it becomes hard, appearing always loose within ; which, when the Cheefe is dry, on cutting, it appears like a Honey-comb.

The thing that more Dairy-women err in, than any other, is gathering or sinking the Cheefe too soon. The rendling of Cheefe, causeth a very great Fermentation ; there must be time given for the fixt Air in Cheefe, or Curd, set to work by the Runnet, to dissipate, expand, or fly off. Runnet is a thing so powerful in its effect, as to have no substitute yet found that can be used in its place ; all Fermentations remove or separate the fixed Air, from the different Bodies they are connected with.

The effect of Runnet on Milk is very great, and in order to thoroughly fix the Curd, it must have sufficient Time to work, concrete, or congeal the Curd into a solid Mass by extirpating the Air from it ; if you remove or disturb the Milk before its full Time, yet the Runnet having begun its

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operation, though you do not give it Time to work, by reason of hurrying it forwards, yet when it is again at rest, such Air as hath not been separated, by breaking, squeezing or pressing, will extend itself, and the Air will find a vent, or expand itself into a greater compass than it was before confined in; and whether it is in the Press, or after it comes out of the Press, will find a way to discharge itself; many times to that degree, when in the Press, as to even burst the Cheese-cloth it is wrapt in, if it is so confined that it cannot escape by it. If it does not get discharged otherways, then, as soon as the Press is let up, it will shatter the Cheese within to a surprizing degree, and immediately cause the Cheese to heave, or puff up, even in that state, which so separates the Curd in the Cheese, as it seldom settles again, unless taken quite in Time, or before the Curd is connected in the Press. A good way to prevent this disorder, of what is called Cheese heaving in the Press, from taking a bad effect, which complaint generally happens when the Milk is put together too hot, and the Whey that comes from it, is left
white

white (which it ought never to be, for then you may be sure all is not right); when the Cheese has first been in the Press an Hour or more, let the Press up and if you find the Cheese swell, or blister, take a large Needle, or fine Skewer, of Wood or Iron, and pierce it in many places to let the Air out; a Pin is not so well, as Brass taints the Cheese, and it will appear of a tainted brassy colour ever after: If you find when the Cheese comes again out of the Press, that it still swells, or blisters, apply the Needle again, and it may perhaps settle again so as to make a useful Cheese; it will never be a good one, but will remain in the state called loose Cheese or shook Cheese. Thus you may discern somewhat of the nature of slip Curd; every Dairy-woman should take care to become as well informed of the different properties, its nature, cause of its Formation, and manner of operating as possible, in order thereby to avoid the many difficulties proceeding from it, which are more numerous than all others, in the whole system of Cheese-making put together, and have been by them, the least considered and examined. In order to avoid

many difficulties, and render you complete Mistress of the first part of the work, which is a very material Crisis, take care to be well informed of the nature of Maw-skin or Runnet-skin; it is very proper every Dairy-woman should know how to prepare them for use, which is very easily acquired; to know in what manner or to what degree it should be salted, and how, properly dried, and take particular care that you have the Maw fresh, not in a tainted or putrid state, you may happen to have such a misfortune as to have it damaged either by neglect, as to Time of preparing it, great heat of Weather, which sometimes hurts our best and freshest Meat in a surprizing degree, notwithstanding every care or caution taken to prevent it, or by the Skin having any way taken Wet, or being Fly-blown; to many of which mishaps the most careful Person, is sometimes exposed; any of which quite alter the nature of it; being of a more particular construction than any other thing, which must appear plain, when 'tis considered, that you cannot substitute or apply any one Thing, in the Article of making Cheese to a proper effect

effect, or that will answer your purpose of extracting Curd from Milk in order to make Cheese with, but Maw-skin; and you will find that when the Skin is damaged or tainted, it looses its fermenting quality considerably; that it will either not take effect at all, or in a very partial and slow degree, and you will often find Cheese made from tainted Maw-skin appear of a putrid, unsettled, ill-tasted, discoloured nature, being affected in a different manner, according to the degree of Putrifaction the Maw-skin has received. Sometimes I have perceived the Cheese of a dusky black colour, not fixt in its Texture, or become solid and close; sometimes, in Taste resembling the flavour of tainted Beef or Mutton, when it comes to your Table; sometimes it has the smell of rotten or addled Eggs, sometimes of the most insipid or tasteless nature, which on enquiring into the cause, could never be explained to me by the Maker. Sometimes an ingenious, well-disposed Person, who wished for Improvement, or to become acquainted with the nature or consequence of such complaint, would hint to me, her

fear was, the Maw-skin was damaged; tho' I have had some, who instead of being open to conviction, or that would pay any regard either to my Opinion or Advice, would tell me that could not be cause, for they always prepared their own Maw-skins, and no one could be more careful to cure them properly, which was the reason they always avoided buying Skins as much as possible, for fear of that misfortune. All this care and precaution I doubt not was just, as from the great care many People take of their Dairy in every other respect, would be particularly cautious about their Maw-skins; but let themselves judge, whether some of the afore recited causes, might not happen to their best endeavours. When I have come to a place where the Dairy-woman has informed me she has been deceived in her Maw-skins, being then I thought on sure ground, or certainty of the cause, I have been very careful to become acquainted with the real nature of the ill effects produced in consequence thereof, and have always found some of the evils before-mentioned, and could often judge from the state I found
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the Cheefe in, in what manner, or to what degree it was affected thereby, and even so as often to convince the Maker of it, that my Opinion was right. If at any Time this misfortune is apparent to you, that some neglect, or mishap has taken place in curing your Maw-skins, you will easily guess from which of the above causes they spring; and perhaps in a course of Time, you may become well convinced, that every one of these mischances do sometimes happen, and as you must certainly be a better, or more competent judge of the real nature of the complaints, (than any other Person can be from common observation,) you will most likely, find other causes of damage, or misfortune that happens in the process, more than I have enumerated; and if any material one, it would be exceeding useful to have it made Public, for the benefit of Society, or to warn those of the damage, whose Business it is to supply the Market with Skins for Sale. When you perceive any of your Skins have miscarried, that they are either tainted, or otherways damaged, take particular notice how they appear; in

what respect they differ from perfect Skins, knowing, that the like causes produce similar effects, and then if you are obliged to buy Skins, you will be enabled to avoid buying such as have the faults you are acquainted with. I have often been led, when in a Shop where Maw-skins were on Sale, to examine them somewhat minutely, and could perceive in some of them much difference; I have seen in the same Skin sometimes, the appearance of very different qualities; I have observed dis-coloured Spots on holding it up to the Light; I have seen one part of a Skin of a well-coloured sound nature, another part that had somewhat the look of rough Parchment, or hard Whit-leather; on smelling, it has not appeared of the same nature, or relish, with the rest; I have also observed Skins that have appeared quite tainted, and even in a decaying state, and have seen Rendless after being made, appear of a dusky blackish colour. A Dairy-woman should be acquainted with these complaints, in order to avoid the difficulty that inevitably accrues for want of that knowledge, and should frequently taste the Run-

net when made, that she may find out in Time if there is any thing disagreeable attends it ; for there is no making good Cheese with bad Runnet.

The Maw-skin, or bag of the Abomasus, is the Maw or Stomach of Calves, that have fed on nothing but Milk, and are killed before the digestion is perfected, it contains an Acid Juice called Runnet, Rennet, or Earning, with which Milk is co-agulated, or rendered into Curd for making Cheese ; in the Maw the Chyle is formed, that causes this co-agulum ; but it greatly looses this effect, when Calves have fed on Vegetable Food ; the Maw of House-Lamb, I am informed will answer the same purpose, but not of Grass Lamb. I have heard of a person who Salted the Curd, or Crudity that was found in the Maw at the Time the Calf was killed, prepared as the Maw-skin is, with good effect, only used in a larger quantity. This may easily be tried by way of experiment ; I never heard of but one Person who used it, and she is now dead ; that prevented my enquiry about it. Since
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the above was publish'd I am informed, that in the last Age, the principal part of the Cheefe was made from the Curd, of the Maw prepared with Salt, till it was found the Skin was of a more clean and wholesome nature. It is observable as an old Maxim, that although Runnet readily co-agulates Milk, yet if put in when already co-agulated, it dissolves it.

There are many ways of making, or preparing Maw-skins; the best and most approved I ever met with is, as soon as your Maw is got cold, when taken from the Calf (for tis known that salting Meat hot, in sultry Weather, will make it taint,) let it be a little swilled in Water; some People say tis better not to be clean'd at all, and the effect will be greater, it coming nearer to real nature, and the reason given, is this, 'tis the inside of the Maw that has the effect in Runnet, and the chyle proceeding from it, the outside being little otherwise than any other Entrail. Rub the Maw well with Salt, then fill it, and afterwards cover it with Salt; some cut them open and spread them

them in Salt, one over another in layers, and let them continue in the Brine they produce, sometimes stirring, or turning them, for four, six, or nine Months, as they can spare them, then open them to dry, being stretched out with sticks or splints, that they may dry regularly; when they are dry they may be used; though, 'tis reckon'd best to be a Year Old before used, keeping them one Year under another. Do not let them in drying, be too near a Fire; if heated too much, renders them liable to reeze, (as Bacon will, when melted by heat,) and hurts their quality, giving them a rancid taste; many People think, the Brine they are prepared in, very useful in making your Runnet, putting it amongst it as other Brine, with smaller proportion of Runnet. People differ in their way of preparing Runnet or Rendless. Many will make it with Whey; some will put in with the Whey, the Brine drippings that come from the Cheese when in the Press. Both these I quite disapprove; Whey, having already undergone purgation, fermentation, or separation of the Curd from Milk, is more likely to become
viscid

viscid, or gummy, acrid, or sharp, or liable to putrifaction than a more pure element. Brine drippings are of a gross foul nature, and may be deem'd; (if the expression may be allowed) even the very excrements of Cheese-making, and what ought never to be put in, in order to bring the Cheese, causing a rank and foul smell as well as taste, I take it to be the worst of all disagreeables.

The way most approved by good Dairy-women, or such as have fallen within my knowledge is this; take pure Spring Water, in quantity proportion'd to the Runnet you intend to make; it is thought best by some, about two Skins to a Gallon of Water; boil the Water, which makes it softer or more pure, make it with Salt into Brine that will swim an Egg, then let it stand till the heat is gone off, to about the heat of Blood warm, then put your Maw-skin in, either cut in pieces or whole; the former I should imagine best or most convenient; letting it steep for twenty-four Hours, or two Meals, (so called in Dairying) and it is fit for use, putting such a quantity into your
Milk

Milk as you judge necessary, for rendering your quantity of Milk into Curd ; observing that too much Runnet makes the Cheese strong and liable to heave, and is what many People call, tastes of the Bull, or Bull Cheese (especially when Brine drippings are put in.) Too little Runnet makes it very mild, and must have more time to stand, before it is broke, or sunk : The judgment required, in the quantity of Runnet, to be used must be regulated by your own prudence, increasing or lessening it as you find it necessary ; 'tis often reckon'd, about a Tea-cup full, to ten Cows Milk. If you make a quantity of Runnet together to keep for use, let the same method be used, increasing the quantity of each material to what you want, putting it in jars or bottles, till you want it.

I have frequently heard Dairy-women mention putting in rose leaves and spices of different kind into the Rennet at the Time of preparing it, in order to give it a relish, and make the Cheese fine flavor'd.

Mr. Hazard, in his Essay to the Bath Society

Society gives a receipt for making Rennet after this manner; when the Maw-skin is well prepared and fit for the purpose, three pints or two quarts of soft Water (clean and sweet) should be mix'd with Salt, wherein should be put sweet briar, rose leaves and flowers, cinamon, mace, cloves, and in short almost every sort of spice and aromatic that can be procured, and if these are put into two quarts of Water they must boil gently till the liquor is reduced to three pints, and care should be taken that this liquor is not smoaked; it should be strained clear from the spices &c. and when found to be not warmer than Milk from the Cow, it should be poured upon the Vell or Maw, a lemon may then be sliced into it, when it may remain, a day or two, after which, it should be strain'd again and put in a bottle, where if well corked, it will keep good for twelve months or more, it will smell like a perfume, and a small quantity of it will turn the Milk and give the Cheese a pleasing flavour — he farther adds — after this, if the Vell or Maw, be salted and dried for a week or two near the Fire, it will do for the purpose again almost as well as before.

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A very material circumstance to be attended to in Cheese-making, is the time allow'd for the Cheese coming, or from the time allow'd for the Runnet to take effect, or the time when the Milk is at rest, called earning time.* Which should on no account be less than an hour and half; all that is stirred, gather'd, or sunk, in less time is liable to danger. It may happen, and often does, that it will come sooner, especially when the method I have recommended of putting Salt in the Milk is used, and where care is taken to have the Milk of a proper warmth, as in these cases the Curd co-agulates or collects sooner on that account; I believe it will be found that the additional time given will never be of any bad consequence, as the Curd then gets firm, and on sinking, becomes more solid, and is easier made into Cheese, in less time, and with much less trouble, than when stirred or broke sooner. What is called sunk Cheese is always allowed to be the fattest; when Curd is fully set, or fixed of a solid nature, by having time enough, it will incline to sink
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* Synonymous Terms.

to the bottom of the Tub, by the assistance of the Hand to gently Press it down, gather, or collect it, and will soon become of a solid nature; most People break the Curd, by stirring it round several times with the Bowl, in order that it may be collected together. Sinking, is performed by getting it down, or sinking with the Hand, without breaking.

In order to prevent a difficulty in getting the Whey to separate easily when sinking the Curd, you may prepare a long Cheese Knife made with a Lath, one edge being sharpened to cut the Curd a cross from top to bottom, in the Tub, three or four different times crossing the lines, checkerswise, by which means the Whey rises through the vacancies made by the Knife, and the Curd sinks with much more ease. I have also known a sieve used to facilitate or hasten the Curd sinking, with success, as it gives an opportunity to lade off the Whey clear from Curd, gets the Curd down much easier and saves time.

When all the Curd is got firm at the bottom

bottom of the Tub, by pressure of the hand, let all the Whey be taken from it ; then let it stand one quarter of an Hour for the Curd to settle, drain, and get solid, before you break it into the Vat ; if any bits of slip Curd happen to be swimming in the Whey, that does not sink with the rest, it had better be put away with the Whey, than put to the Cheese, as it will not cement or join with the solid Curd, and all slip Curd, as before observed, dissolves or melts, so that it is a detriment to Cheese when ever put in ; many People, as soon as the Whey is removed, immediately break the Curd small as possible, and then put it into the Cheese Vat, for finishing. I would always recommend that it rest one quarter of an Hour, before 'its broke, or vatted ; the Cheese would be much better for it, as the Air would more easily separate, and prevent its puffing up under your hand, when squeezing in the Vat, and also prevent the Fat squeezing out, as it often does through your Fingers ; which being so much broke, occasions, and certainly it must make your Cheese, both leaner and lighter. I have consulted many good Dairy-women,

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on the Article of breaking Cheefe, and find, 'tis the most general method to break the Curd as small as possible, when put into the Vat; but what makes that more absolutely necessary, is, there being flip Curd amongst it, and that never appears to embody, or join with the rest, unless broke and thoroughly mixed; and even then I am fully convinced is of no use for the reason above given; although I have laid it down as a rule, never to stir or gather the Cheefe in less than an Hour and half, many of the best Dairy-women I have ever consulted, generally let it stand two Hours; by which time the Curd is got to be of so firm a nature, as to render the breaking of it at all absolutely needless, it being got so solid, they only cut it in slices, put it into the Vat and work it well into it, by squeezing thoroughly to make it firm and close, then put it into the Press, and no more is needful. The finest, fattest and best Cheefe I have seen, I have been informed was made this way; there is sure to be no sweet Cheefe, horny-coated, or jointed Cheefe made in this manner; sometimes I have observed Cheefe that has been
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funk, tho' very fat and well tasted, that
 would become very hard and cut chiselly,
 which I take to be owing to the Curd getting
 very cold and set hard before Vatted, to pre-
 vent its doing so, it may be necessary to break
 the Curd and not give it quite so much time
 in earning; as many People prefer Cheese
 that is not so very solid, or that has a mel-
 low softness, which breaking will give it;
 although it is reckon'd the best quality to cut
 solid, and flakey; remembering that giving
 it more time in earning makes it more solid,
 and shortning the time makes it less so.
 Many Dairy-women are much puzzled con-
 cerning the cause of sweet Cheese, forming
 different ideas about it; I am fully convinced
 it is wholly caused by stirring or breaking it
 too soon in the Tub, by which means the
 Runnet has never taken full effect, nor is any
 slip Curd ever fit to make Cheese with, in
 what ever state it may appear, unless in soft
 Cheese, or slip-coat Cheese; for when Curd
 is quite in a slippery state, especially if very
 warm, salt will have very little effect on it,
 which is the cause it is so apt to putrify and
 dissolve, and a very principal cause why

Cheese becomes sweet, is, its not having taken salt, as you may generally perceive Cheese that is much jointed or blue pated has scarce any relish or saltiness in it. When the Whey is of a white colour the Curd is not fully settled, and if it is so to any great degree, the Cheese is sure to be sweet, and in that case you always cast away great part of what should be Cheese, for the Whey thus put away would neither turn to Butter nor Cheese, though of a considerable substance, remaining of an undigested nature: If you pursue the method I have laid down, you will always find the Whey quite green, which is the colour it ought to be of; and let more or less be the time you adopt to put your Cheese together, if the Whey is not green, depend upon it your Cheese is not properly come, or your Maw-skin is not good, or quantity of Runnet not sufficient. It is difficult to ascertain what quantity of Runnet is required to bring a Cheese in the most proper manner, as the quality of the Skin is so various, and strength of Runnet, as well as quality of Milk so different; People are much divided in opinion, whether

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'tis the best way to make your Runnet fresh every Day, or to prepare a quantity together, according to the quantity you want and bottle it up for use ; in large Dairy's it must be best to make a quantity together, as you certainly must be a better judge of the quality, or what quantity is necessary, than when the making is left to chance, as by that means you may regulate the quality and taste of your Cheese better, and have more dependance on the time of its coming.

The best Dairy-women I have known, in general, recommend the latter method.

The cause of jointing or wind-shook Cheese, is from a small quantity of slip Curd being much broke, so as not sufficient, to form Eyes in the Cheese ; but which is sufficient when dissolved through the whole mass, to leave a vacancy, which generally unites in a perpendicular direction, and forming cracks or joints within the Cheese, and sinking joints nearly like to cracks on the outside. If it happens to any considerable degree, it causes the Cheese to have very little taste, generally turns blue-pled whilst under a year old, and

often rotten Cheese when older ; most dry rotten Cheese is produced from this effect, unless when bruises, or cracks are the cause. Wet, or moist rotten is generally produced by a larger quantity of slip Curd ; having never united in a solid state, nor taken any salt, becomes very putrid and rots, and as the Cheese dissolves, is often very wet or moist. I have several times seen Cheese that has appeared sound till cut, that afterwards had not a pound of sound Cheese in a whole one. Spungy Cheese is such as partakes of the elastic or springing quality of a Sponge, I take it to be produced from Curd, which has nearly undergone every proper fermentation to make the Curd unite, but leaves it in a very tough state, caused by the over heat of the Milk when put together. Rank, or strong Cheese is generally caused by too great a quantity of Runnet, and that Runnet made too strong to operate in the time given, or from Runnet being made with foul materials; hove, or heaved Cheese is caused by different means ; when the quantity of Air in Cheese increases after the Cheese has been some time made, I suppose such Air to be rarified

rarified by a greater heat than the Cheefe has before been in, the coat being got hard and the pores much closed, the Air expands within, and causes the Cheefe to rise or swell, in a round form; this is very visible when you put a taster into the Cheefe or a pin to let out the Air, it rusheth forth with a strong wind, of a rank disagreeable smell, caused by the Air being discharged from putrid or undigested Curd. Sometimes, if Cheefe is laid cool when first made, or coming from the Press, is dried outwardly by means of a harsh cool Air, when at the same time the inside of the Cheefe remains in a moist state, though the coat is hard and dry; when that Cheefe is exposed to heat, either by lying near a hot Wall, or near Tiles in hot Weather, or by the immediate heat of the Sun, it will be drawn up, round, in the same manner, and by the same cause that a board is made round or coffer'd up, by the heat of the Sun; rank Cheefe very often heaves, from the cause before given that makes it rank: 'Tis very common for Dairy-women, to ask, what will cure hove, or heav'd Cheefe? I am fully of opinion there is no cure for it

after it is affected with heaving, but to let the Air out of it, that it may close and settle again. There has for many Years, been an ingredient sold in Shops, called Cheese-powder, being made of nitre or salt petre, and bole armoniac proportion'd thus, to one pound of salt petre, put half an ounce of bole armoniac, both powder'd very fine, and well mixt together, rub about one quarter of an ounce upon a Cheese, when put a second and third time into the Press, about half on each side the Cheese at two different meals, on the upper side, before you rub the salt on, that it may penetrate the Cheese with it; these are very binding ingredients and are sometimes found to be very serviceable, but nitre is apt to give the Cheese an acetous or sourish taste, and if too much is put in, and the Cheese is expos'd to great heat, will cause a fermentation, that will encrease the quantity of Air in the Cheese & cause it to swell more than it would if none had been put in. I have known many things recommended as a cure, but could never find that any thing was serviceable except the above, and piercing, or discharging the Air, with a needle, wire,

or

or skewer. The most powerful preventative to the heaving of Cheese, is, to avoid making the Runnet too strong, or, not to put too much into the Milk, to take care that your Runnet is not foul, nor made either with Whey or Brine drippings, or tainted Skins, to be certain that your Curd is fully come, not stirring it till it has had time for the fermentation fully to take effect, to let it drain a little before it is broke or vatted, and to keep the Cheese warm, till it is got stiff, or had a sweat, and you will, by a careful attention to these particulars, very seldom have any hove Cheese.

Cheese is very apt to split, or divide in the middle, by being salted within, especially, when people spread salt across the middle of the Cheese when the vat is about half filled, which Curd tho' in a small degree separated by salt, never closes, or joins, and is much easier coffer'd up or drawn round than other Cheese; especially, thin Cheese made in what we call *Glocester* vats being round or rising in the bottom, and the slider or Cheese-board that is laid over it, made
convex

convex also, in order to make the Cheese thinnest in the middle, that it may dry quick, for early sale. Then, if salted within and being laid soft on the shelf to dry, as it bears only on the edge all round, it is almost sure to split; and it is often seen, scarce a Cheese in some Dairys of this form but what do split; salting a little in the Milk is greatly preferable, for these Dairys in particular; for as salt dissolves, it keeps the inside of the Cheese moist or soft for sometime, if salted in the Curd, which is what I would never recommend to be done in any Dairy, especially across the middle as is often done. I have sometimes known Cheese thus salted when there has been much slip Curd in it, and that, and the salt both dissolving together, and the Cheese split, the vacancy shall contain a quantity of Water, which if ironed when Young, gushes out, or else cracks the Cheese when moved, and the Water runs out to a considerable degree, the same thing must have been observed by other Factors, in some Dairys where salting in the middle is used. Cheese is apt to bulge, fly-out, or get round edged, when

when it is either kept soft, by being moist within, or having too much slip Curd or unsettled Curd, or elastic Air within it. Dry cracks, or wind cracks are generally produced, by keeping Curd from one meal to another which gets quite cold and fixed, and being put together with Curd that is made of too hot Milk, these two, never properly adhere, or join, and cause the coat to be harsh, and often fly, or crack. Curdly or wrinkle-coated Cheese is caused by sour Milk, chiefly when Cheese is made from two meals, as 'tis very common in hot Weather for Milk to turn, or get sour in one night's time, especially if Milk is hot when set up, having been much heated in the Cow's Udder, and very probably much agitated and disturbed by Cows running about, or being heated to a violent degree, or the Milk having been carried in Churns or Barrels on Horse-back any distance; Cheese made of cold Milk, especially if inclined to be sour, is apt to cut chiselly, or that breaks or flies before the knife. Sunk-coated Cheese is caused by being made too cold, as you will often find Cheese that is made in Winter or late
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in Autumn, will be, unless laid in a warm Room after it is made. Two-meal Cheese is made with two-meals, or night and mornings Milk, which if put together pure, not having the Cream taken off, will make nearly as good Cheese as new Milk, and much better if it must be finished in one Hour, or less, or when new Milk Cheese is made with Milk that is too hot.

What is generally known by the name of two-meal Cheese, is in *Gloucestershire* called second Cheese, being made from one meal new Milk and one of old, or skimmed Milk, having the Cream taken away. Skimmed Cheese, or Flet-Milk Cheese, is made from all skimmed Milk, the Cream having been taken off the whole to make Butter, or for other purposes: This sort of Cheese is much made in the County of *Suffolk*, or at least goes by the name of *Suffolk* Cheese, when at market, or in *London*, where the principal part of it is disposed of; it being much used on ship-board, not being so much affected by the heat of the ship as richer Cheese, or so subject to decay in long Voy-
ages

ages, and being bought at a low price, makes it much called for in that way. There is but little art required in making this Cheese, if care is taken of it, but yet there is great difference in the quality of it, which I am fully convinced is principally caused by want of care; it is not exposed to so many difficulties as richer Cheese, but Dairy-women must remember, flip-curd has the same effect, in a lesser degree in Skim-Cheese as in new Milk; though the Milk being much weaker is not in so much danger. An Hour, or an Hour and a Quarter is time enough to give it in rendling; keep the Cheese warm when young, and cool after. I know some Dairy-women do not give it three quarters of an Hour in coming, and thereby find more difficulty than need be; paying little regard to it, as they do not use it themselves, nor will it fetch much money, yet I know some careful Dairy-women who make Skim-cheese that would deceive a common observer, in appearance, being made in the same form as new Milk Cheese, well coloured, made clean, and better coated, than many ordinary Dairys of new Milk Cheese.

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I have paid in a Dairy of thirty Cows upwards of fixty Pounds in a Year for skim Cheefe, an object not unworthy a Dairy-man's notice, some people are of opinion, the most Money to be made of the skim Milk of a Dairy, is to feed Sows and Pigs with it, but this I must leave to those concerned in the business. Some Dairy-women in order to enrich their new Milk Cheeses will put the Whey Cream, into their Milk, which if quite fresh, not older than one or two Meals, will improve it. To make fine Cream Cheefe, one meal of Cream extraordinary should be added to the new Milk ; this will make exceeding rich Cheefe, but requires great care, and should not be gathered or sunk in less than two Hours. I apprehend two Hours and a half or three Hours will be found much better in general.

The way recommended to make soft Cheefe, or slip coat Cheefe, is, take six quarts of new Milk hot from the Cow ; the stroakings or last Milkings are the best, being the richest Milk ; put into it two spoonfuls of

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Runnet, let it stand three quarters of an hour, or till it is hard coming, or become full Curd; lay it into the Vat with a spoon, not breaking it at all, laying upon it a trencher, or flat-board; press it with a four pound weight, or if you find it gets too hard, then press it with a lighter weight, turning it with a dry cloth once an hour, and when got stiff, shift it every day upon fresh grafs or rushes; it will be fit to cut in ten or fourteen days, or sooner, if the Weather be warm; many people use Baskets, made on purpose, instead of Vats to make it in, this is esteemed in private Families; where it is carried to market, Vats must be best, unless carried in the Baskets.

To make brick bat Cheese; in *September*, take two gallons of new Milk, and a quart of good Cream; warm the Cream, put in two or three spoonfuls of Runnet, when it is well come, break it a little, then put it into a wooden mould in the shape of a brick, press it a little, then dry it; it is best to be half a Year old before it is used, or more, if you like it older; two hours is as little
as

as it ought to be in earning, or to stand before it is broke after the Runnet is put in, or longer if the Whey is not inclined to be green. I am informed *Stilton* Cheese is made in this way.

Cream Cheese is generally made in *Autumn*, the Milk being richer and fatter in *August* and *September*; by which means it has not the warm Season to ripen it, and it is generally made thick, in order to preserve it's mellowness. Rich Cheese will not dry so fast as lean, nor thick Cheese so soon as thin; in course it must get less hard in the Season than common thin Cheese, by which means it is more exposed to frost and chilling cold. I have often found that people who make Cream Cheeses, find more casualty attend them, than in leaner, hard Cheeses, owing to chillness, or being froze before they get hard; for when frost gets much into Cheese, it destroys every good quality, and makes it putrify, and become either insipid or ill tasted; Cream Cheese should always be kept in a warm situation, and be particularly guarded from frost, and
till

till it has sweat well, or you will lose the advantage of its richness. The contrary method is to be used with skim Cheese, as in that, there is very little fat to sweat out, and chill Cheese is better than harsh-meated, horney-coated Cheese; let it have what warmth you can for about a fortnight after making, and then keep it cool.

In making slip-coat or soft Cheese, remember it is of quite a contrary nature to hard Cheese; and instead of getting stiff, its best quality is to have it run, or dissolve into a creamy substance; for which reason it must be made with Slip-Curd, which alone will cause it so to do; good Curd will always get harder by drying, but Slip-Curd will not even become solid, or continue a Substance; this clearly demonstrates my Sentiments on Slip-Curd as before related. It has generally been reckoned that the Milk required to make one Pound of Butter will make two Pounds of Cheese, and a larger quantity where Land is poor, the Milk being weak will not afford so much Cream.

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As colouring of Cheese is now become almost an universal practice, it is highly necessary to pay a due regard thereto ; Cheese, in its native state, that is well Manufactured, being put together in proper time, the Milk of proper warmth, well cleaned when young, and kept warm, till being regularly Dry, will naturally be of a yellow cast, and when a Year old will coat of a reddish or brown-red colour ; the richer the Cheese, the more tis inclined to appear in this manner, and you seldom meet with Cheese of this native cast but what is exceeding good, being fat, well-tasted, cuts flaky, is stout, or full-tasted, high-flavour'd Cheese ; and it is found that every country will produce some such Cheese, when in the hands of skilful Dairy-folks, though it has yet appeared in a small degree ; you will find such Cheese among the fine Dairys in *Cheshire*, *Double-Gloucester*, or *Thick-Gloucester*, being made double the Thickness of common Cheese, *North-Wilts*, in some few Dairys, in *Derby*, *Stafford*, *Leicester*, and *Warwickshires*, but there being so small a proportion of this best Cheese, and the demand for it being larger

larger than the supply, a substitute is thought necessary, to make good Cheese look as much like fine Cheese as possible, from which cause the art of colouring originates, and much increases.

It is remarked by dealers in Cheese as well as others, that a much greater part of the People that eat Cheese, have little Idea how it is produced ; they, finding the best Cheese of the fullest, or yellow colour, naturally conclude, or are led to think, that Cheese of a pale colour, must be made with inferior (or skimmed) Milk. So much this Idea prevails, that it is well known, in *London*, a Cheese-monger will more readily sell good Cheese of a full colour than fine Cheese of a pale or inferior colour ; *London* being the principal Market, or place where the greatest quantity of the best Cheese is sold. Colouring formerly used to be performed by various Drugs, as *Turmerick*, *Sanders*, &c. by *Marigolds*, *Hawthorn-buds*, and the like. The principal ingredients now used is *Annatto*, and in its best kind, is much the best colouring that ever was found out. *Annatto*

to is of two sorts, known by the name of *Spanish-Annatto* and *Flag-Annatto*, the former is much the best for Cheese-colouring; being of a hard substance, and proper in kind, or texture, dispensing its colour in a regular and free manner, without being subject to much waste or decay. The *Flag-Annatto* is brought over in a moist state, and wrapped in large broad *Flags*, which keeps it in some degree from waste; it is brought in that state chiefly for the Dyers use, and is a principal Article in Dying Orange-colour; if this sort is used in colouring Cheese before it gets hard, it is apt to appear in the Milk of an oily nature which prevents the colour taking effect in a regular manner, and is some detriment to the coming of Cheese; if it is kept till quite dry and hard, which in course of time it will be, perhaps in six, nine, or twelve Months, it is then very little inferior to *Spanish*. Of this last ingredient, mixt with others, the Druggists and Blue-makers in *London*, make large quantities of what they call Cheese-colouring, often giving it the name of *Spanish Annatto*, and there is some of it made, to very
much

much resemble it, both in nature, and colour. But true *Spanish-Annatto* is much preferable; I have known an ounce of it colour ten hundred weight of Cheese, of a much better colour than any other ingredient would that I ever knew; I have known it formerly sold in shops at three shillings, and four shillings *per* ounce; the great price it then brought at market, and getting very much into use, induced the *American* planters, at one time, to send a large quantity, which so much over-stocked the market, and lowered the price, that it was not worth their while to make it; and for that reason, very little of the genuine sort has come to *England* since; but the same materials have come in flags, which come at a much lower price, though nearly as dear in the end, being so much heavier, and the colour not going so far as the *Spanish*, nor is the colour so exquisite or blooming as the *Spanish*; that, giving the Cheese the bloom of native yellow Butter, when made in the prime season of Spring. An ill opinion having been formed of coloured Cheese, and by many said, that it is un-

wholsome; in order to remove that prejudice, I will endeavour to describe its nature. It is made from the seed of a plant, of the flowering kind, much like to a balsam, the seed is so much like it, as scarce to be distinguished from it; I have sowed it, but without effect, our climate being too cold. I was sometime since enquiring of a *Jamaica* Planter, how the *Annatto* was prepared for use; who said when the Seed was ripe it was covered with a slimy or unctuous skin like as Linseed is, which being steeped a little while in water, became loose from the Seed and was rubbed off with a cloth or flannel, which being afterwards washed with water, was sunk to the bottom; on pouring the water off, the *Annatto* was produced in a wet pulp, or paste, which being wrapped in flags, was ready for Dyers use.

In the *Spanish Islands*, they dry it and make it up in balls for use, and 'tis a principal ingredient in lacquering brass, &c. as well as colouring Cheese. I am well convinced that in its pure state, it is of a very rich fattening nature, and improves Cheese

to

to a great degree, in quality, as well as colour; as I never met with any Cheese so exquisite, that had not been coloured with it, as I have of that which hath. The way it is used in colouring Cheese, is, take a piece of *Spanish-Annatto*, which appears in form, of a stone, then take a bowl of Milk, dip the *Annatto* a little into it, then take a pebble, or hard Rag-stone, on which rub the *Wet-Annatto*, washing off the *Annatto* into the bowl, till it becomes of a deep colour, then put that into the tub, or pan of Milk you make Cheese of, (before you put in the Runnet or Salt) in such quantity as will render the whole of a pale Orange-colour, which will get deeper, or increase in colour after the Cheese is made; one good property *Annatto* partakes of, it neither affects the Cheese in taste or smell. Cheese is often impregnated with Sage, by bruising the leaves and mixing the juice with Milk, which gives it a green colour, and an agreeable taste. Some use Parsley in the same manner, but that is not so much esteemed for flavour as Sage, Marigold-flowers are bruised and used the same way; these flowers are reckoned of a

very fattening nature, and good flavour, and esteemed the most of any, and give the Cheese a colour nearly equal to *Annatto*. *Cochineal* is also used by the curious, being of a fine pink hue, and has a pretty effect, in the hand of an ingenious Dairy-woman, in making figures of Flowers, Trees, &c. in Cheese.

Dairy-women who are fully of opinion, that no better method can be used, than that which they apply, are not often very readily convinced, that there are better methods of making Cheese than theirs. A Factor who is a good judge of Cheese, sees a great variety in the quality of Cheese, and altho' most People like good Cheese, yet so easily is the difference discerned by nice judges, who have frequent opportunities of remarking it, that they can perceive a real and distinguishing property, that causes a very different Idea in them, from what they hear advanced by the makers. Such a dealer is very certain, that in a large connexion of trade, he will find some very good judges, who know how to prefer excellence in quality,
and

and are well acquainted with the perfections required in the article, and perhaps from their situation in life, are enabled to get a much higher, than a common Market-price, for a superior Article: Such a Person will have such goods, in what place soever they can be met with, and knows also that in order to procure them he must give a superior Price.

A Person who engages to supply such customers, as such there are in perhaps every country, in a larger or lesser degree, must use his own judgment, and not depend on the good opinion others may form of their goods. He will find in a very large survey, amongst Dairys, in the best country he travels, a very small proportion of excellent Dairys, or such as will supply those particular customers, and when he meets with them, is perhaps, obliged to deal them out very sparingly to the different good customers, that may wish to have some particular nice, and good Cheese for such of their Friends, who are likewise determined to have the very best they can meet with.

Very

Very good second-rate Cheese, is much more scarce than inferior, and the best, will still find customers. Every dealer would be happy to find a large supply of fine Cheese, every maker of Cheese would be glad to have his Dairy meet with that preference. Some Dairy-folks will complain that there is not proper encouragement given for making good Cheese; as Factors give for all Dairys in a neighbourhood, nearly the same Price, though some of these Dairys are not so good as others, by some shillings *per* hundred: But then let these people remember, that 'tis themselves only that sit in judgment in this case. Bring the makers of two Dairys together, and you will hear each of them give the preference to their own. The Factor must clear himself of this charge! For 'tis of dangerous consequence, for a Factor to complain of any fault in the Cheese to the maker, or not give it sufficient praise.— Perhaps he will say to the Person, whose Dairy may appear the neatest, and have had most care taken of it, and in the Eye of most people, had the preference, your Cheese is extremely neat and good, is fat and mild,
and

and will please many of our best customers exceedingly, will even stand in competition with *Gloucester* and *Wiltshire* Cheese, which is always neat, well-handled, and mostly esteemed by genteel People, your neighbour's Cheese is not so mild or beautiful, but has many good qualities, 'tis full flavoured, stout Cheese, such as is most in demand, is bought by people who do not so much mind the beauty of it, as being profitable Cheese to buy, that will spend well, or according to the common Phrase, will eat Bread well, and though there may be a few strong Cheeses amongst them, there are many customers wish to have them so. If you go into a Fair, you will find some people looking for handsome mild Cheese, but more buyers of stout, good spending Cheese, of which they must be better judges, what suits their sale, than the makers.— Certainly there are in most Countries, some few Dairys that have all the good qualities; beautiful, fat, fine flavoured, &c. and these generally find their way to the best market. There is one best way of doing every thing, and 'tis what in every way of life is a cause of strife; a maxim I was taught in
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my youth, was, never strive to be second best, some one must prevail, and they that do must strive for it, the best way of doing a thing is as easy, when known, as the second best. This emulation is what every dealer in Cheese would wish to discover in the breast, and proceedings, of the Different Dairy-folks in his walk, that he might be enabled to go to Market, as one, who could lead and command both the opinion and interest of the best customers: Such goods as would give that preference to him, would of course give the command in price to those who supplied him; for though the Cheese they now make, may at present support their own good opinion, yet, when they come to find, that they have improved in so great a degree, as to enable them to see excellence, where they only saw usefulness, and blooming beauty, where only mediocrity appeared; Ambition and Interest, their bosom friends, will point out a new road to them, in which they will travel, not only as swift and prosperous, as their rival neighbours, but will not leave them in an easy and composed state, till they have out-gone them. In this happy track I confess I should

should be glad to meet many of my old friends and neighbours, in whose service I have laboured many a long day ; and so far as my abilities will support me, should be glad to be their conductor ; but whether in my present pursuit, I may be so happy as to shew them the right road, is very uncertain. If by opening their Ideas afresh, shewing them where Improvements may be looked for, and giving them some convincing circumstances, where such truths appear, they may be led to look farther to find better, I shall hope they are in a fair way to prevail. Some few circumstances they perhaps may expect, to convince, and some fresh out-lines to extend the Ideas I have set on float. I will give you in a few instances, the way I came first to be moved in this pursuit.

The first that alarmed my Ideas, concerning the cause of sweet, unsettled and ill-flavoured Cheese was, I was once going by a house, I knew was notorious for as bad a Dairy as I ever met with, the Dairy-woman saw me, and said, won't you call and look at my Cheese, I am sure tis as good as
my

my neighbour T—s, which you have been buying, I replied I fear not; come in then and see, she said; as soon as I came into the Dairy-chamber, I saw, and told her it would not suit me; why not, she replied, I am sure 'tis every drop New-Milk, and nobody can take more pains with it, nor work harder at it than I do. On looking to the farther side of the room, I perceived a Cheese that was very blooming in appearance, handsome in shape, well-coated, firm, fat, and much larger than the rest. I said, pray how came that Cheese there—I should be glad to know the History of it; why truly said she 'tis a strange one. I replied if you will make such Cheese as that, it would be worth five shillings, or even ten shillings a hundred weight, more than the rest; says she, one night when I had rendled my Milk, a person came running to me, and said, neighbour T— is groaning and you must come immediately; I said to a raw wench I had to help me, now be sure you dont touch this Cheese till I come back, I will be sure to come to you when I see how neighbour T—is; but it happened she was worse than I expected,

pected, and I could not leave her till after midnight. I said, my Chèese will be spoiled, but the poor Woman shall not be lost for a Chèese; when I came home I found it not so bad as I expected, put it into the Vat in a hurry, saying, it may possibly make a Chèese that will do for ourselves, but I little thought it would ever be a saleable Chèese;—well now—said I, and is not this Chèese a proper lesson to you? dont you thereby plainly see that you have made the rest too quick—why yes—said she, it might, if I had thought at all—but I declare, I never once thought about it—Profound stupidity! thought I to myself, and left her—however, this plainly convinced me that Chèese in general was made too much in a hurry, and often when I came to a Dairy where the same complaint prevailed, I told them this story, and it frequently had the good effect, to produce good Chèese in the lieu of bad, by giving more time to the Milk in earning.

To corroborate with this story also, my own opinion, that good Chèese may be
made

made by a skilful Dairy-woman in any place, or on any land; there now lives in the same farm, where this old woman did, a person who makes, without exception, as good a Dairy of Cheese, in every point, as I ever met with in any country; I have had this Dairy, at a Fair at a distance for many years, and two or three people were generally at strife to have it, and it commonly happen'd that it was made a point of by Buyers, that if I would let them have that Dairy, they would buy their whole quantity of me, so that it generally was the cause of my selling three or four other Dairys along with it. Next, to shew that there are many Dairy-women do not make so much Cheese from the same Milk, or near it, as they might, or ought to do; on the evening of a very hot day, I went through a Farm-yard, and was much pleased to see as fine a Dairy of twenty Cows as I had seen for a long time, on going into the Dairy-chamber, to my great surprize, I found a poor parcel of very lean, hungry looked, ill shaped, bad tasted, hove, and Whey-spring Cheese,—I said to the Dairy-woman, certainly this is not all
the

the Cheefe you have made from the fine Dairy of Cattle I ſaw in your yard! It really is, ſaid ſhe, except the few that are not come out of the Dairy. I have been ſo ill for the laſt two or three months, I could not poſſibly be amongſt it, and I find my maids know very little of the matter. It is a poor parcel, and I am aſhamed to ſee it; I replied your ſervant takes a wrong method in making Cheefe; I will engage to tell you how you ſhall make two Cheeſes where you now make one, or one Cheefe as large again; that difference, ſtruck her much; if you will ſhe ſaid, I will try it, and this very evening—Then, ſaid I,—as the weather is hot, take three or four quarts of freſh ſpring Water, or in ſuch quantity till you find your Milk is what you may properly call Milk-warm, then, put two or three handfuls of Salt into it,—after that put your Runnet into it, and let it ſtand an hour and half before you ſtir it, if 'tis two hours it will be better, and you will be ſure to have more Cheefe, in that time, the Curd will incline to ſink eaſily to the bottom of your Tub, then collect and gather your Curd,—

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let it stand one quarter of a hour to settle, then Vat it, and put it into your Press; let it stand in the Press two or three meals, turning it in the Press once between the first meals, and at each meal after — she followed my advice precisely, the Milk being at rest before I left the house. Some time after, I enquired of her how my advice succeeded; she said quite well, and I am convinced we had not made half the Cheese we ought to have done. But observed, their Pigs had been found to thrive in a surprising manner, and well they might, after having had more than half the produce of the Dairy.

I once met with a young Dairy-woman at a Fair; who had a lot of Cheese unfold, after almost every Dairy in the Yard it stood in was disposed of; she asked me to buy her Cheese, having bought some adjoining Dairys; I objected, saying I do not like it, she seemed rather surpriz'd, saying, I am sure 'tis made of as good Milk and as well took care of as any of my neighbours that you have bought, I told her the method
she

she took in making the Cheese was wrong, she seemed quite desirous to improve it if she knew how. I desired her to follow the method described above, exactly, which she promised to do, but observed it was so contrary to what she had ever heard of, she should be surprized if it made good Cheese. I said the Cheese you have here is very bad, the way to make good Cheese must be contrary to that in which this was made, for the like reason as when a person is in a burning fever, cooling medicines are applied to restore him; when very chill, a warming remedy will have effect—she wish'd to know what were the faults of her Cheese; I told her it was very loose, sweet, or ill-tasted; that rather displeased her, and she seemed to mistrust my knowing any thing of the matter—saying—it is not sweet—how can you possibly know that never tasted it, I told her Cheese of that countenance always was sweet. I put my taster into one and gave it her to taste, she acknowledged it was very rank, but wondered how I could know it was so—I perceived the Cheese of an unsettled nature, that I had

not a doubt the Milk had been carried in Churns or Barrels, I said I imagine your Dairy-ground is some distance from your House, do you milk your Cows in the field or drive them home, she said sometimes the latter, but generally the former, and brought the Milk home on Horse-back. I told her how difficult it was to make good Cheese of Milk carried in that way ; she said I find you know where I live, I replied I dont know so much as the County you live in, she seemed quite astonish'd ; I saw a husky dry coated Cheese on the top of one of the heaps, that had dry cracks in it ; I said, I suppose you remember how that Cheese was made ; she answered in the affirmative, when you made that Cheese, I said, you had reserved some Curd from the meal before, and put into the other Curd, next meal, which having been rendled too hot would not join together, as I will shew you by the different Curds in the Cheese, which I did in my taster, the white looking Curd being the old Curd which caused the cracks, and the yellow the New-Milk, (and you may always observe a mixture of that kind where Curd is kept

kept from the last meal, appearing marbled and cutting chifelly)— She acknowledged that Cheefe was made in the manner I described, seemed very thankful for my advice, and pursued it very nearly the next Summer, when she produced at the same Fair the following Year a Dairy of Cheefe with very few faults; I pointed them out to her, told her how to remedy them, as in the rules before described; she thanked me, and the next Year with great pleasure shewed me an exceeding good parcel of Cheefe.— A near relation of mine, who kept a Butter Dairy, was desirous of making Cheefe, and said to me, I am entirely ignorant how to proceed, but if you will point out the right method, I will exactly follow it, I gave her the same direction as to the former Dairy-woman, she followed it, and I am certain no one can make nicer, or fatter well tasted Cheefe than she did, being one Day saying how good her Cheefe proved, observed she had one Cheefe, then cut, that was jointed and blue-pared, and wish'd to know the cause of it; I examined it, and found it must be caused by flip-curd; she said she never altered, or shortened

the Time given for the coming of the Milk after it was rendled; on ruminating the cause, I said, do you put your bowl in the Tub when the Runnet is in? She replied always; do you ever find any difference in the Curd under the Bowl from the rest, on removing the Bowl?— Sometimes I perceive the Curd under the Bowl of a smooth slippery nature, and when I have tried to get it solid, I never could, it always slipt through my fingers, and some of it would swim in the Whey when the other was solid, which I always took care to break as small as flour, among the other Curd— I said is the Bowl being there of any use? She did not know that it was; she took it away and had no jointed Cheese after, in her Dairy; which plainly convinced me that the Air under the Bowl prevented the Curd from coming in the same Time as the rest, and that the small quantity of slip-curd under it, was the sole cause of the joints that appeared, for there was not an Eye in the Cheese, owing to its being broke so small, which if any of the slip-curd had been left in bits of any size, would have caused Eyes larger or smaller in the Cheese, but now
it

it dissolved in the form, and manner before described, in jointed Cheese; it is a general practice with Dairy-women to put the Bowl in the Milk when the Runnet is put in, and leave it in till the Cheese is come; I have frequently asked the reason for it, and the general answer was, that by taking the Bowl out, they might know when the Cheese was come; which will be much better known by putting the Bowl the contrary way, or the hollow part upwards instead of being downwards, for there is often slip-curd collects under the Bowl when put downwards and that makes your Cheese Whey-spring, or Eyey, and for that reason the Bowl had much better not be put in at all, especially in Cheese that is sunk, and not broke, as then the slip-curd is sure to cause Whey-springs.— Another relation, being pleased with her Sister succeeding so well, followed exactly the same method, having wrote down every particular, and her Cheese was remarkably fine and good. These, and such like instances convince me that good Cheese may be made by rule, or regular method, on any Land, providing nothing very singular pre-

vents, as from noxious weeds, plants, &c. or distempered Cattle. It is often observed poor Land makes the best Cheese; to those who are fond of mild Cheese, it very often does, the Milk being weaker or thinner, is sooner collected into Curd, than rich Milk, by which means it is often completely fit to sink or gather sooner, and has many chances of making good Cheese by that means, or in the same time allowed, than from better Milk, which will not become good Curd in the same time that is given for the weaker Milk; for if the Curd is not solid and good, no art can make good Cheese of it. But, if rich pasture, good feeding Land, being old Turf, has proper time given it to make good Curd, and the Cheese is well taken care of after, I always find the richer Grass makes the best Cheese and more of it. To confirm my Opinion, that breaking Cheese in the Curd is a needless and exceeding wasteful method; being lately at a friend's house who keeps a few Cows only to make Butter and Cheese for their own use, and that of a few friends, the Gentlewoman said to me, I could wish to know the best method of making

making fine Cheefe, (having met with such at my relations, before mentioned) and desired my directions ; and said their Cheefe was apt to be a good while in coming when in the Tub, their pasture being rich old Turf. I told them to give it full two hours, recommended putting salt in the Milk as before prescribed, which was done, and to sink the Curd instead of breaking it ; after having a long knife made from a lath, cut the Curd from top to bottom, crossing it many times, by which means the Whey separates readily, then get a sieve and there with you will press down the Curd with great ease. Having settled the Curd well, and let it stand a quarter of an hour to drain, having laded all the Whey out, it became quite solid — then the Dairy-maid cut it in slices and work'd it into the Vat, without ever breaking the Curd at all ; with very little trouble, and in a short time she made a complete handsome Cheefe ; full one third part larger than any they had before produced from the same Cows, and continued so to do in succeeding days, the Whey being quite green, which they could never bring it to be, when
broke

broke and gathered in the Tub ; and broke in the Vat afterward, which method certainly wastes a great deal of Cheese and much impoverishes it by squeezing the fat out in breaking.

A friendly correspondent, being a considerable dealer in Cheese, knowing of my intended publication, is so kind as to favour me with his sentiments on some particulars; which, as some of them coincide with my own already described, and one in particular, promises great utility to very small Dairys, and will be a considerable means to prevent sour Cheese, by pointing out a method to preserve the Curd without hazard, with his permission I lay it before my readers.

“ I have some years been trying to find out
 “ the reason why Cheese frequently looks
 “ of a grey dirty appearance, and which is
 “ always attended with a strong disagreeable
 “ taste, and from enquiries and observations
 “ I have made, I am clearly convinced it is
 “ owing to the Runnet being kept too long,
 “ and not being sweet when put into the
 “ Milk. It is often the case in small Dairys
 “ in

“ in order to make the Cheese of a tolerable
 “ full size, to make it but once a day, and in
 “ hot Weather it is almost impossible to pre-
 “ vent one meal being sour, which must in-
 “ evitably spoil the Cheese. I beg leave to
 “ inform you of a method practised with
 “ good success. A friend of mine who was
 “ a Farmer’s Daughter, and had been used
 “ to a Dairy, marrying a person of a different
 “ profession, they kept one Cow to give Milk
 “ for the family, which being small she could
 “ not use all the Milk; she then tried to
 “ make Cheese of the surplus, and made
 “ tolerable sized Cheeses, perhaps seven or
 “ eight pounds each, in the following man-
 “ ner; when the weather was warm, she put
 “ Runnet to the Milk as oft as she found it
 “ necessary, once or twice a day, while it
 “ was sweet; having separated the Curd from
 “ the Whey, she put the Curd into a broad
 “ shallow Tub, just covering it with cold
 “ water, and shifting the water two or three
 “ times a day as she thought necessary, and
 “ thus kept the different parcels of Curd,
 “ till she had enough to fill her Vat, by
 “ which means, she made exceeding good
 “ Cheese

“Cheese. Some good Dairy-women, I think
 “often err in the manner of breaking their
 “Curd; tho’ they make good Cheese, they
 “might make better and more of it, if they
 “did not squeeze out so much of the fat
 “in breaking; the Whey that first runs from
 “the Curd is always the thinnest, and was
 “that thin part first separated, before the
 “Curd was much broke, it would certainly
 “leave the Cream in the Cheese, which
 “would but little of it squeeze out in putting
 “in the Vat, but when it is broke so
 “very small amongst the Whey the rich
 “parts are squeezed amongst the thin Whey
 “and carried away with it. I know an instance
 “or two myself, of persons who I
 “firmly believe made their Cheese of real
 “New-Milk, yet broke their Curd so much
 “that their Cheese was not so good as I have
 “had two meal Cheese. I think the method
 “used in *Norfolk* and *Suffolk* to separate the
 “Whey from the Curd, is much preferable
 “to that used in *Warwickshire*, or *Leicestershire*;
 “when they think the Milk is sufficiently
 “curdled, they lay a strainer into
 “a basket (made for the purpose,) which
 “they

“ they put the Curd into and let it stand to
 “ drain for a time, before they break the
 “ Curd.” In regard to my friend’s opinion
 concerning what he calls grey, dirty look-
 ing Cheefe, ’tis often caused by foul Run-
 net, but I am of opinion it more often hap-
 pens when Cows have been drenched, either
 for the yellows or other complaints; and it
 will look of that countenance and get in-
 fipid, or ill tasted when much frozen, as I
 have more than once had Cheefe in my own
 possession turn of that dark putrid colour
 after being much froze, that I knew was not
 so before it was affected by frost.

Being lately in company with a Dairy-
 man at a distance, talking about Cheefe-
 making, he said he never used a Cheefe-press,
 and said that his Cheefe got hard as soon,
 and kept as well as those that used a Press,
 the method he used is, to make the Cheefe
 in a hoop (being chiefly thickish skim Cheefe,
 tho’ he said he often made New-Milk Cheefe
 in the same way) that was open at top
 and bottom, which being filled with Curd,
 and well squeezed into it, was then set upon

a board that had holes bored in it; the hoop also being bored and cover'd with a board which was bored also, putting a moderate weight upon the board to settle the Cheese; turning it upside down, twice a day till it got stiff, and it answered very well. When Curd is firm, it will settle and get hard with very little crushing, it is the slip Curd that is in it, that makes it require so much pressing to settle it, this method will be very useful in very small Dairys that have no Press.

Clover, or other artificial Grass, which generally contains more Air than common Grass, requires full time in bringing the Cheese; in its first operation, it should not be exposed to too much heat, immediately after it is made, as the greater the quantity of Air that remains in the Cheese, the more effect heat will have upon it, by causing it to heave, or split when the Air becomes rarified. Cheese made from Clover is rather more difficult to make, to even the best of Dairy-women, but I have seen very good found Dairys of stout, full flavour'd Cheese made from Clover, especially when a good deal

deal of time is allowed to bring the Cheefe, and care is taken not to let it lye too hot, after it begins to get dry. It is always hurtful to Cheefe to lye too near tiles in hot weather. Dairys are subject to damage by noxious, or poisonous plants, roots, or trees: Where Cows are fed in pastures much addicted to wild-garlick, or cow-garlick, ramsons, or wild chives, I have often perceived the rank taste of the Herb in the Cheefe. Many people are at a fault to know the cause of bitter Cheefe; which I have often observed is most prevalent from poor, or moderate light Land, and have frequently taken notice that where Cheefe is bitter, their pasture is much addicted to black plantain, ribbed Grafs, or cock plant, may weed, dandelion, especially the rough leaved sort; centaury — arsmart or lake-weed, tansey, wormwood, meadow sweet, &c.—I take yarrow to be an ill favoured Plant for Cheefe, where it prevails much in Land, being of a very faint nature, tho' Sheep are said to be very fond of it, — Hem-lock — hen-bane — night-shade, cow-bane, cow-weed, water-wort, kex, drop-wort, yew-tree, box, and
 most

most other ever-greens certainly are noxious and very hurtful. * I have often observed in riding thro' Dairy-farms, how little attention is paid to pasturage, Farmers frequently suffering many sorts of known noxious Plants or Weeds to flourish in them, without any concern to extirpate or cast them out, or of having the least thought of encouraging, or propogating such as are salutary or cheering to Cattle; I have often heard the remark made by Farmers that there is an instinct in Cattle that directs them to avoid noxious Plants, and even directs nature to apply many as remedies in various complaints; we often read of wild Beasts, Serpents, &c. that are governed by such instinct. — But it often happens that in very dry seasons, pastures are so very short that Cattle are obliged to eat any thing that is green to keep them alive; and 'tis well known they often do clear up every thing before them, and many sorts of Plants that they will not touch at other times; I have often observed that in such seasons, Cattle are very much
subject

* A description of noxious Plants, will be found at the end of the Book.

subject to violent disorders; I have known many die, without the owners, or cow-leech being at all able to account for the cause; and frequently taken notice that Cattle dying so suddenly are much subject to swell greatly, and often in the same Dairy that many have died apparently from the same cause, and that such complaints are most prevalent in the Months of *July* and *August*, when poisonous Plants are in full vigour; I remember one Person who had lost several Cows, who was a judicious person in Farming affairs, observe, that undigested Plants were found in their Stomachs, or Maws when opened, although they had not eat any vegetable food for two or three days, which made him suspect they were poisonous, and 'tis very natural to form such an Idea.

There is no branch in Husbandry seems of more importance, or gives a larger field for improvement than the conducting and managing of Dairy-Farms; as a great share of the health, as well as the lives of the human species, are in a considerable degree dependent, on the health and good con-

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dition of Milch Cows. Milk being a vegetable juice, or that yields a nourishment partly vegetable and partly animalized, partaking more or less, of the good or bad qualities of Plants on which the Cow feeds — Milk, in its produce of Cream, Butter, Cheese and many of our luxuries, is a constituent part of our daily food, through every stage of Life, consequently great care ought to be taken, with respect to the food of Animals, who furnish us with so great, and necessary a part of our sustenance; I have always thought some knowledge in the use of Plants, a very agreeable amusement, and it would certainly have been much more my study, had I thought of ever having such an opportunity of making it useful. Such as have fallen under my knowledge I have here endeavoured to describe, in which I acknowledge to have received much help from a late ingenious publication of DR. WITHERING on *Botany*, (being the first I ever met with in English after the Linnæan System,) which I think a work of great merit. As the Dairy-man, or Farmer, becomes more informed of the nature of noxious Plants, he will

will surely think it worth his while to try to get rid of them, by rooting them out ; and as it is well known that Cows are very much subject to scowring, and flatulent or windy disorders, it may be very well worth his while to sow or plant in his pastures and hedges, such herbs in proper quantities as are found to be the best remedies for these and such other complaints which Cattle are most incident to. Among many that might be mentioned the following herbs are very salutary, (and if there is such an instinct in Cattle as some suppose, they will know how to cult the best,) lovage, agrimony, chervil, carraway, cummin, mint, basil, hyssop, rue, angelica, pepper-mint, penny-royal, thyme, marjoram, &c. I should think a very proper time to sow, or plant them, would be when you set, or plant hedges, or when plashed, or the banks fresh made up, or in pastures where Ant-hills are dug up and carried away, to sow them in the places they are dug from ; It must certainly be an improvement of the first kind, to clear a Farm of all sorts of noxious and poisonous Plants and Weeds, and stocking them with such as are health-
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ful salutary and medicinal.—Trefoil & white Clover are esteemed exceeding good Grasses for producing Milk. But the highest encomium is given to Saintfoin Grass, as being superior to any other. — An *Essex* Farmer who is a correspondent in the *Bath* Society for promoting Agriculture, thus describes it; “ As the roots strike deep in our chalky
 “ foil, this plant is not liable to be so much
 “ injured by drought as other Grasses whose
 “ fibres shoot horizontally and lie near the
 “ surface, the quantity of Hay produced is
 “ greater, and better in quality than any
 “ other, but there is one advantage attends
 “ this Grass, which renders it superior to
 “ any, and that arises from feeding it with
 “ Milch Cows, the prodigious increase of
 “ Milk which it makes is astonishing, being
 “ near double that produced by any other
 “ food. The Milk is also better and yields
 “ more Cream than any other; I give you
 “ this information from my own observation,
 “ confirmed by long experience, and if Far-
 “ mers would make trial they would find
 “ their account in it far more than they
 “ expect.”

It

It is a pretty general opinion, that Saintfoin thrives only on up-lands, that lie near a rock, lime-stone, chalk or strong gravel; the reason given is, the roots strike so deep in the Earth, that unless it meets a check it seldom flourishes. That such Land, being rocky, or very shallow hungry soil that will scarce bear any other sorts of Grass does produce great crops of Saintfoin, I have many times observed in different Counties; but as I meet with various Authors who say, that notwithstanding that advantage there is in it, preferable to any other Grass, yet it always thrives best in a rich good soil, which makes me imagine it has seldom had a fair trial, and if the advantage as a Dairy Grass is so great, it is highly worth the Dairy-man's notice.

We find many Farmers very industrious to improve their breed of Cattle, and set much store on blood and fashion. The Dairy-man's chief concern should be to have Cows with good Bags, or Udders; that yield a quantity of Milk; and it is well known, by persons who keep but one or

two Cows, that there is a material difference in the richness of Milk in Cows, and that when they set up the Milk of different Cows, they find, one shall yield a much larger quantity of Cream than another; and many are known not only to yield more Milk, but even much better than the Cow which gives less; this is an useful remark to a Dairy-man as the quantity of rich Milk is the support of his undertaking, and must in the end pay more than the fine form of Cattle, which may be of more consequence to the feeding Grazier; and great care should be taken that the Cows are Milked clean, as many good Cows are spoiled by suffering Milk to remain in the Udder; which will cause the Cow daily to give less and less, till at length she will become dry before the proper time, and will be very apt to give but little Milk the next season. It is observed in Fairs, that the people from *Wiltshire* and other Dairy Counties, who buy Cows, always make a large bag in a Milking Cow, their first object, and those that buy Cattle for feeding pay very little regard to it, preferring a good carcase; as Dairy-men are generally

nerally the breeders of Calves, it should be their first object, to breed from Cows, which produce the best and largest quantity of Milk, and supply their own Dairy with that breed. I have often heard Dairy-men remark, that Cows are apt to give more Milk on the land they are bred upon, than others who come from a distant soil. I would always recommend to every Dairy-man, wherever it is in his power, to convey running streams into his Dairy-ground,—to encourage his Cows to frequent scowers in Brooks, or running Streams; Cows certainly like clear Water best, and it always produces most Milk; and keeping them cool, the Milk is much easier made into Cheese, or Butter. When Cheese goes from the Press, let it be kept in as warm a state as you can, till it has had a sweat, or is got pretty regularly dry, and stiffish; It is warmth that makes Cheese ripe, improves the colour, and causes Cheese to cut flakey, the surest sign of excellent quality; which is very clear to those who know the great difference there is in Cheese that has gone by Sea in the Summer-time to *London*, or any distant Port on

our Coast, having been thoroughly heated on Ship board, by the heat of the Season, and such large quantities being in the same apartment. I dare say any Person who has eat Cheese in the finest Dairys in *Cheshire*, and also in a Tavern in *London*, when the same sort of Cheese has undergone the heat of a Ship, and afterwards been laid in a Wine-cellar to cool gradually, and make it Mellow, (which is allowed to be the best situation for finishing Cheese, it not being exposed to harsh Winds, or chilling Air,) such Person must allow the Warmth it has received, improves the flavor and richness of the Cheese to a superlative degree. I would recommend, where it can be avoided, that hard Cheese is not kept in the same Room with the soft, as a dampness that arises from the new moist Cheese, is a detriment to the improving state the hard Cheese is getting into, making it very apt to chill, and get thick-coated, and often spotted; in some measure there is an analogy with the fine flavoured Fruit, this being the Season that Cheese may be supposed to come to its flavor, and the foul damp that falls from the
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exhalation of the soft Cheese greatly retards it, and being deprived of a chearing Warmth, will never become excellent. Cheese never tastes agreeably till it has had a sweat, such as is always kept in a cold state eats chill, flat-tasted and insipid; a south aspect, or a Room over a Kitchen-fire is much best, till Cheese is got tollerably hard and had a sweat; a cool shady Room, or even a Plaster-floor is best after it has had a sweat, till such Time as the Weather gets too cool. Cheese very seldom heaves or gets puffy after it has had a sweat and got cool again; the fat that melts with heat, closes the pores of Cheese made open by harsh Air, and keeps it mellow afterwards. The sweat of Cheese should not be rubbed off, or scraped off, unless it has sweat to a violent degree, as it keeps the Cheese mellow and always improves the flavour. To have every excellence it must have every advantage. — In *Wilts*, *Gloucestershire*, and some part of *Warwickshire*, most people wash their Cheese, putting it in a little warm Water or Whey to soften the swarthy-coat occasioned by the Cheese .

Cheese-cloth, or not being rubbed when it begins to get coated; then they rub it off with a Brush, and afterward lay it to dry, or sweat before it is laid in the cooler apartment; many prefer rubbing it with a hair-cloth, beginning with it when Cheese is fit to handle, and not wash it. If Cheese is designed for going by Sea, or for speedy consumption, I think washing is preferable, care being taken not to send it off too soft, as that exposes it to crack, then the Fly takes it, and Maggots breeding in it damages your Cheese. When Cheese is designed to be kept long in the Dairy, if kept well cleaned, I prefer the other method, as the coat preserves it, keeps it mellow and improves the Flavor. Frost is very detrimental to Cheese if permitted to get into it, especially, soft young Cheese; care should be taken to keep the Windows close in hard frosty Weather; many will cover it with (and even lay it in) Peas-straw in severe Seasons. I have known all the good qualities of Cheese annihilated or taken away, by being Frost-bitten when Young; it is apt to turn black as if made with sooty Milk, and

and not have the least taste of Salt, or any relish remain. It is a very common method to scald Cheese, either in the Curd, or in the Cheese; the former I quite disapprove, the design being only to settle the Curd which has not had Time given it to sink solid in the Tub, which if done, will want no scalding; boiling Water, or boiling Whey poured upon it will set the Curd in some degree, and fix it hard, but then it always leaves it Tough and Horny-coated, if it is scalded to any great degree; more time taken in bringing the Curd, and having the Milk of a proper warmth, will render this whole proceeding quite needless. People are only seeking a remedy for a fault which they had no sort of occasion to have been troubled with. Scalding Cheese after it has been in the Press is of some advantage to Cheese that is to go by Sea, that, only being to set the coat and toughen it, is not so much exposed to bruising, and the heat of the Ship recovers it again to its proper state by removing that toughness which scalding gave it; but Cheese for Country Trade, is hurt by scalding, making it Tough and Horny-coated,

coated. If Cheefe gets too hard that has been scalded, the best way to recover it, is to lay it in a heap, four, five, or six Cheeses high, in a cool room, stirring and removing every Cheefe once in two or three Days, till it is got mellow. In many Counties, as *Lincoln. Huntington, Bedford, &c.* People take very great pains to make bad Cheefe, if a good Dairy-woman happens to come amongst them that sells Cheefe for a much greater Price than they can, yet they will follow their own method; perhaps, some few of them at least, when they come to see Dairy-ing plainly delineated, may have some inclination to alter their Plan, unless they prefer bad Cheefe to good.

Many may wish to know what is a proper Size for Cheefe-Vats for Trade. For Cheefe of the *Gloucester* make, we reckon that Vats—15 Inches Wide by $2\frac{1}{4}$ Inches Deep to make Cheefe, Eleven to the Hundred Weight.

15 $\frac{1}{2}$ Inches by $2\frac{1}{2}$ to make Tens.

16 Inches by $2\frac{1}{2}$ to make Nines.

16 $\frac{1}{2}$ Inches by $2\frac{1}{2}$ to make Eights.

16 $\frac{1}{2}$ Inches by 2 $\frac{3}{4}$ to make Sevens, &c.

Since writing the account of the Maw-skin, I have heard of a Plant called the Runnet-Plant; it is the first Time I ever heard the Name of it or the least hint concerning it. I am informed the *Jews* make all their Cheese with it; their Law not permitting them to mingle Meat with Milk, which term they apply to making Cheese with Maw-skin, I have frequently seen *Jew* Cheese, but never saw any that I thought good or tollerably so, makes me imagine it is the necessity of principle only, that promotes its Use, but as I am an entire Stranger to the process, shall be greatly obliged to any one who will favour me with any particulars concerning it, with its qualities and manner of Use.*

I am favour'd with a Letter from a Friend whose veracity I can depend on, acquainting me of another species of Runnet-plant, imagining my former information was not right, and that the Dairy-plant was of a different kind

* The Plant is described amongst others at the end of this Book.

kind to that I had described — sending at the same time some plants, for my inspection — called spear grass, and also the method of using it, as practised by a very good Dairy-woman in the County of *Derby* for many Years, whose Dairy was in the highest credit in the neighbourhood, where she lived, hoping the Public might receive benefit by the publication of it, the receipt is as follows. — Take Spear-grass, and as much cold water as will cover the Grass, boil it over a slow Fire for an hour, put to it salt in proportion, of half a peck to six gallons of Liquor, then cover it up till cold, then strain it and add three Maw-skins to each gallon, let it stand nine or ten days, then bottle it, use a table spoonful for a Cheese of fifteen or sixteen pounds; but more or less may be used at discretion. From this receipt a very useful remark may be made: I have frequently enquired of Dairy-women who made their Runnet for keeping, what quantity of Skin they us'd, and have generally understood it to be about two Skins to a gallon of Water, but I have always thought that must be too little, here we find three Skins is

recom-

recommended, even added to the decoction of Spear-grafs, which must certainly be a powerful help to the Runnet; 'tis observ'd also in the receipt, that a table spoon-full may be used for a Cheese of fifteen or sixteen pounds, which I imagine must be as much as twelve or fourteen Cows Milk; if even two or three spoon-fulls will do for that quantity of Milk it must be of a very powerful fermenting quality, and leads me to imagine that Runnet in general, is certainly made too weak; and that if by the above method, or by the addition of spices as recommended by *Mr. Hazard*, a much stronger Runnet is made; it must greatly quicken the coagulation and be a means of bringing the Cheese properly, in shorter time than that in present use, and might probably be sufficient if the Milk stand an hour, or at most an hour and half, which would fully reconcile my plan of sinking Cheese to those who may think the only difficulty attending it, is requiring too much time.

Spear-grafs is a very common plant, grows chiefly on moist land, or by pit sides, often
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in lanes, it is an upright stem, inclin'd to a redish brown, mixt with green, the leaves are spear-shaped growing up the stalk, a bright yellow flower with five petals, of the crow foot form, blossoms in *May* and *June*; this is doubtless a good plant for improving the Runnet, it being of a hot nature, and having been used so many Years with good success is a great recommendation — but this cannot be the plant before described to me, and which I have found in different Authors, called yellow ladies bed-straw, goose-grass or Cheese Renning, nor does the Runnet made with it answer to the ends proposed in making *Few* Cheese.

I should imagine the best time to collect the Spear-grass for making Runnet, must be when it is in full Flower, which may be very apt to help the colour as well as give firmness to the Cheese. I have not a doubt but Runnet made with this plant, in the manner above described, will be a considerable improvement in Cheese-making, and should be glad to hear of its having a fair trial, it appears to me to be the most likely thing to correct the mischief caused by Slip-curd.

Having

Having now gone through the design of the work, and laid down such observations on the principal concerns of Dairying, so far as relates to Cheese-making, as occur to my remembrance, I take my leave of it, hoping in general it will be found useful and expedient, and before I conclude, earnestly recommend it to such Dairy-women 'who find any difficulty in their proceedings in the business of Cheese-making, or wish to improve their make of Cheese, that they will, well weigh every' part of the subject, and make trial of the whole process, as stated in its different parts. As I am well convinced, by repeated trials that if the plan I have laid down is observed with care, it will not fail to make good Cheese. And though it may be objected by many, the length of time of the Milk standing for Curd, yet so complete will the state of the Curd be, that you will often times more than save that time in crushing, as it will be finished in half the time, that bad Curd will take, and by the extra weight of Cheese, that time will give, will at length repay all your trouble; I well know, many Dairy-women

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are partial to some particular method, or nostrum of their own, or their mothers, or neighbour such a one who was a famous Dairy-woman, as being preferable to all others, in which they often fail of success, in some respect by having omitted to observe the exact minutia of their practice. As a very small omission, in time, or method, sometimes leads them into a labyrinth, which they very rarely ever get out of, and causes them more vexation and perplexity, than if they had never known any thing about it. Or, if their's be a good method and very practicable, perhaps it is possible there may be a better, or easier means of proceeding, that will render their Plan quite needless.

I hope that those who wish to improve from my instructions, will give it a fair Trial, if any at all; they need not say they are left in the Dark in any part of it, as every particular is made plain and most of them repeated, as precept upon precept, and line upon line. Let them be particular however in the main concerns, such as the proper warmth of the Milk, the goodness, and

and use of the Maw-skin, to give it Time enough in the Tub, or Cheefe-pan, to keep the Cheefe warm when young, and cool afterwards; then I think they will scarce fail of making good Cheefe. If they mean to excel, and make fine Cheefe — and why not? — Then I refer them to the more minute Observations of the Work, and I wish and hope, that they will find their Pains well bestowed, and afford them both Comfort and Profit. I doubt not but methods used in different Counties vary a good deal. Some perhaps may be pointed out that are preferable to some of mine, and if any Person will be kind enough to point them out to me, or shew me where any thing has been omitted, or Error committed, if another Edition should be called for, I shall very willingly communicate them to the Public.

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B U T T E R.

BUTTER is an Article in very general use, and numerous are the people employed in making it; and is in great esteem; from observations I have made, it admits of very little variation in the method of preparing, which methods are so generally known, require very little commentary upon them; I profess not to understand them, and therefore shall say very little about it. What little I have remarked in conversing with Dairy-women, is, that care should be taken to set up your Milk when it is of a proper warmth — Milk-warm is the best, regulated the same as for rendering Cheese, applying a little cold Water if too hot, and either warm Water or Milk if too cold; many think Water best, saying, it will throw up Cream sooner; to take care the Utensils it is set up in, are exceeding
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ing clean — the utility of which I think is clearly made appear by observing the effect of a contrary remark in making Whey Butter. — Indolence, finds out many ways which Industry never thought of. — Some Butter-Women, whose care is, more, to make a large quantity, than regard the quality, or flavour of Butter, will tell you, that sour Whey, yields more Cream than sweet, and it immediately turns sour, by putting it into the Pans you poured the last meal's Whey from, without washing them. But in making good Butter, great care must be taken to prevent the Cream's being sour, or your Butter will be ill flavoured, and will keep good but a very little time— That lead Pans are preferred to every thing, in throwing up, or rising the Cream from Milk. Not to let the Milk stand too long before it is skimmed, especially in hot weather.— If it must stand two meals, it had better be skimmed twice, than to let it stand the whole time for one skimming, as the Milk often turns sour before the expiration of two meals; and if the last meal should change, you may then be enabled to keep all the sweet Cream by it-

self.—The less time the Cream stands before it is churned, the finer flavoured and sweeter your Butter will be.

Nothing is more commendable in a Dairy-maid than cleanliness, nor will any thing cause them to be more esteemed; every one who perceives extream neatness in a Dairy, cannot help wishing to purchase either Butter or Cheese from so clean and neat a place, and would gladly give a higher price, rather than be exposed to the chance of fluttish nastiness, too common in many Dairys. It is remarked by many Travellers, that in the *Isle of Wight*, nothing is more pleasing than to see the exceeding neatness of their Dairys; it very rarely goes unnoticed, and to a delicate taste, scarce any thing affords greater pleasure,

As Butter is become a very considerable Article of Trade, it is highly proper every means should be rendered to make it as complete and perfect as possible; it is very different in regard to purchasers of large quantities of Butter, who must take lots as they happen,

happen, and in which very often a considerable part of them are very inferior to what they ought to be, and to buyers of fresh Butter in Markets; who can see and taste it before they buy, which is a caution to the makers to have it well made, knowing it will be inspected before sold, those who put it into Casks or Firkins, for distant sale, are apt not to be so very careful about it. I have heard frequent enquiry by Cheesemongers, or dealers in Butter, what is the cause of Salt Butter being so subject to get rank, strong tasted, or rancid, or what some people call a fishy taste, which is a very great detriment to dealers in Butter, and the cause of the complaint much wants to be known; being well acquainted that the complaint is very frequent, has often led me to enquire into the cause when an opportunity has offered, being lately conversing with a person on the subject, he said it was very common in *Suffolk & Yorkshire*, to heat the Milk before it was set up for Cream, which is done in order to increase the quantity of Cream. It is well known that every fat substance that is heated, will in

course of time turn rancid, or reezy, that when Butter, of the last year, or a year old, is in the Cask through the Summer, the heat will affect it, and so far as the heat gets into it, will reeze or become of a tallowy nature, fat Bacon will reeze so far as the fat melts; and the heating of Milk must certainly alter the nature of it, and in course of time will cause the Butter to turn rancid, and ill tasted. I have heard it observed by a person who is used to buy fresh Butter that was made of heated, or clouted Cream, (which is a method much used in some parts of the South of England) that it is very apt to get strong and will keep good but a very little time. So that from all remarks I have been capable of making, it seems clear to me that the badness or foulness of Butter, is chiefly owing to the Milk being heated, and is a hint worth the enquiry of the public, especially large dealers in Butter, in order that some method may be taken to prevent an evil that is become so very prevalent.

A friend who has been much used to Dairy-
ing, lately communicated to me a method to
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give Winter made Butter, which is often made from Fodder, either Hay or Straw, the countenance and relish of Summer Butter, made in the prime of the Season; which is done by taking the juice of carrots, being bruised, or pounded to a pulp & then press'd or squeezed out, putting it into the Cream before Churn'd. And also, a method to take off the disagreeable taste of Butter made from Turnips, *viz.* let your Cream be warmed and poured into a Tub or Pail of cold Water, then skim the Cream off the Water, which will rise to the top, the same as in Milk, and by this means leave the foul taste behind it in the Water, this last method will much improve Whey Butter, taking off the disagreeable sourness that often attends it, and by adding the juice of carrots as above, will help its colour and give it an agreeable relish, and by this means you may salt Whey Butter, down in pots, that will do very well for paste in Winter. In a very sensible, and practical Essay printed in the third Volume of the *Bath Society's Letters and Papers on Agriculture, &c.* by *Mr. Hazard*, some useful remarks are made on Dairying, and also
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on the Dairy-house, which he says, should always be kept in the neatest order, and so situated, that the Windows or Lattices never front the South, South-east or South-west; Lattices are also prefer'd to Windows, as they admit a more free circulation of Air, than glazed lights possible can do, and to prevent the cold Air in Winter, a sliding frame coverd with oil'd cap paper, pasted on packthread strained thereon, will admit the light and keep out the Sun and Wind. It is hardly possible in the Summer to keep a Dairy-house too cool, on which account none should be situated far from a good spring or current of Water: They should be neatly paved with red brick or smooth hard stone, and laid with a proper descent, so that no Water may lodge, this pavement should be well wash'd in summer every day; and all the Utenfils belonging to the Dairy should be kept perfectly clean, nor should the Churrs even be suffer'd to be scalded in the Dairy as the steam that arises from hot Water will injure the Milk, nor do I approve of Cheese being kept therein, or Rennet for making Cheese, or having a Cheese Press fixed in a Dairy,

Dairy, as the Whey and Curd will diffuse their acidity through-out the Room. He is of opinion the proper receptacle for Milk are Earthen-pans or Wooden-vats, but not lined with lead, as that mineral certainly contains a poisonous quality and may in some degree affect the Milk, but if people still persist in using them, he advises that they never forget to scald them, scrub them well with salt and Water and to dry them thoroughly before they deposit the Milk therein, indeed all Utensils should be cleaned in like manner before they are used, and if after this, they in the least degree smell sour, they must undergo a second scrubbing before they are fit for use, he also recommends Pans with a large surface, or wide at top; during the Summer Months he recommends skimming the Milk very early in the Morning before the Dairy becomes warm, and not in the Evening till after Sun set; churning he recommends to be done in a Morning before the Sun appears, taking care to fix the churn where there is a free draft of Air, if a pump churn be used it may be plunged a foot deep into a tub of cold water to remain there the whole

whole time of churning, which will very much harden the Butter; a strong rancid flavour will be given to Butter, if the churn be so near the fire as to heat the wood, in the Winter season.

After Butter is churned, it should be washed in many different waters till it is perfectly cleansed from the Butter-milk, but he observes a warm hand will soften it and make it appear greasy: The Cheese-mongers use two pieces of Wood (or Spaddles) for their Butter. and if those who have a very hot hand were to have such, they might work the Butter, so as to make it more saleable.

Butter will require, and endure, more working in Winter than in Summer, but he remarks he never knew any person, whose hand was warm by nature make good Butter.

Those who use a pump churn must endeavour to keep a regular stroke, nor should they admit any person to assist them, except they keep nearly the same stroke, for if they churn more slowly, the Butter will in Winter, go
back

back, as it is called, and if the stroke be more quick and violent, in the Summer it will cause a fermentation, by which means the Butter will imbibe a very disagreeable flavor. Where many Cows are kept, a barrel churn is preferable, but it requires to be kept very clean or the bad effects will be discover'd in the Butter, to be fixt in a warm place in Winter, and where there is a free Air in the Summer.

As many of my acquaintance wished to have an enlarged account, of the Art of making Butter: I was very glad to have the opportunity, of collecting these annex'd, which are most of them worthy observation, and as I have before mention'd the method some people use in making Butter from what is generally call'd clouted cream; I shall now give you the process as laid down by *Mr. Hazard*.

“ In the first place, they deposit their Milk in Earthen-pans in their Dairy-house, and (after they have stood twelve Hours in the Summer, and double that space in the Winter

ter) they remove them to stoves made for that purpose, which stoves are filled with hot embers; on these they remain till bubbles rise, and the Cream changes its colour, it is then deem'd heated enough, and this they call scalded Cream, it is afterward removed steadily to the Dairy, where it remains twelve Hours more, and is then skimmed from the Milk and put into a Tub or Churn, if it be put into a Tub, it is beat well with the hand, and thus they obtain Butter, but a cleaner way is to make use of a Churn; some scald it over the fire, but then the smoke is apt to affect it, and in either case if the pans touch the fire, they will crack or fly, and the Milk and Cream be wasted."

Dairy-women are oft times much perplex'd when churning, by having the Butter very long in coming, the cause of which I have never heard properly explain'd, some think the Cream was too cold, sometimes it is thought too hot, many observe that an irregular motion in churning prevents its coming properly, as before remark'd by *Mr. Hazard*, but there seems to be a more powerful chemical

cal cause; from observing common causes, I should imagine there is an alclaine salt in old Milk, which sometimes overcomes the oily part of the Cream when agitated by the motion of churning, so as to prevent the Butter, separating in the churn, the cure for which seems to be, to reduce the alcali to a neutral state, which effect, Acids are known to have, or at least alcalics on Acids, as is common; when Beer gets sour or much Acid, to recover it by putting a little salt of Tartar, salt of Worm-wood or any other powerful alcali into it, immediately recovers it to its usual state, and neither the acid nor alcali are perceived in the Beer, being made neutral by their union.

I am much pleas'd to find my opinion seconded, and put in practice by an anonymous Author in the *Bath Papers*, who was very earnest to find out a remedy that would hasten the operation in churning, and from a very pertinent idea that led him to weigh the matter, seems to have found out the real cause of the obstruction, met with in the work, and also a remedy, which many Dairy-women

women will be very happy to be inform'd of, as the Author justly observes, it will shorten the Labour of many a weary Arm, and prevent much vexation to a multitude of good House-wives.

He observes, that when the operation of churning had been going forward for half a Day, he caused a little distilled Vinegar to be poured into the churn, and the Butter was produced within an Hour afterwards.

He also remarks upon the subject, that if the supposition be admitted, that the Cream of old Milk (and such is Milk for the most part in Winter,) contains much stronger alkaline salt, or at least more of it than new Milk does, then the effect of the Vinegar is readily accounted for on the known principles of Chymistry, it is an acknowledged property of alcalies to unite with oil into a saponaceous (or soapy) mass, and to render them intimately miscible with water. But it is likewise well known to chemists that there is a nearer affinity (as they Term it) a much stronger elective attraction between acids
and

and alcalies than between alcalies and oils ; consequently the acids being mixed with the Cream, immediately attaches to itself the alkaline salt, which is the bond of union, as we may call it, that holds together the oleaginous (oily) and aqueous (watery) particles, and leaves them easily separable from each other. It may perhaps be objected to this mode of practice that the acid mixing with the Cream, would render the Butter unpalatable ; but this on experience I do not find to be the case, and indeed I should not myself have expected it, as the Butter is usually well washed in two or three changes of clean Water, by which the whole of the acid is carried off, or if some few particles remain, they are so few as not to be perceiv'd by the taste & perhaps have rather a desirable effect than otherwise, by acting as an antiseptic, (preventing putrefaction) and preventing the Butter from becoming rancid so soon as it otherwise would do ; he adds, my experiments have not as yet ascertained the exact quantity of the acid which is necessary to produce the proper effect, nor the precise time of its being mix'd with the Cream. But I

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apprehend

apprehend a table spoonful or two to a gallon of Cream will be sufficient ; nor would I recommend it to be applied, till the Cream has under-gone some considerable agitation.

After having so much interested myself in endeavouring the improvement of Dairying, I am unwilling to take my final leave of it, without adding my sincere wish, that the increase of Dairy-Farms, may meet with every encouragement from the Public, as it appears to me, a matter of the first consequence to this Nation. The price of Butter & Cheese having so much increased within a few years, makes it quite necessary to give every encouragement to the increase of Dairying, as it plainly appears, there is not near a sufficiency of those Articles for general use, and every endeavour to increase the quantity must be for the Public good, if we only consider how large a quantity of Butter is imported into England every Year, and yet the price still continues to advance ; it is astonishing to think that there is annually great quantities of Grain of different kinds imported into the Kingdom, while such a
prodigious

prodigious quantity of Land lies waste in commons or that are of very little benefit to the community in general; also, how many thousand People (both young and old) are now unemploy'd, who might find sufficient support, if encouragement was given for improving of Land for different purposes, and growth of numerous materials which now takes our Money abroad, such as Rhubarb, Liquorish, Madder, Woad, Teafels, Flax, Hemp, &c. As a plan for improvement in Husbandry, seems much to prevail at present in this Kingdom, as if in emulation, to keep pace with the Arts, and ingenuity discoverable in many of our capital Manufactures in the present Age, so superior to those of former times and which are still improving in a very great degree, so from the various Societies connected in different parts of this Kingdom, for the benefit and improvement of Agriculture, great knowledge is acquired and made Public for the general advantage of community, and if the same spirit would animate Gentlemen in common, who doubtless are the people that will receive the greatest advantage from

the inclosure of commons, it would be a noble example, and discover a true patriotic spirit, if they would undertake the improvement of the Lands, which may be inclos'd, and who have it more in their power, especially where small Farms are necessary, (than the peasant to whom they may be let, and who, when they are made useful can perhaps best employ them for the Public good,) they would then be well repaid for their trouble, be setting a noble example to posterity, making a fortune for their Family, at the same time they are enabling numbers to gain a livelihood by their means, and what is there in Life that would more endear them to their Country, than such a benevolent disposition. I have not a doubt but the proportion of large Farms throughout this Kingdom is too great for the small ones, and if the inclosure of commons should take place, there would be a proper opportunity to equalize them, by making a larger number of small Farms of different degrees, from 20 Acres to 50, from 50 to 100 and from 100 to 150, for tho' it is from large Farms, that our principal supply of provisions must arise, yet
it

it certainly is from the small Farms that our Markets are chiefly supply'd with the common necessaries, such as Butter, Eggs, Fowls, Pigs, Pigeons, Fruit and many other common necessaries of human Life, and the more small and moderate siz'd Farms there are, the better will all Markets be supplied. I have not a doubt but if Gentlemen would undertake the management of new enclosures, great improvement might be made from the Horse-hove, and drill Husbandry so much commended by many of the *Bath Society* correspondents, as well as those of *Arthur Young, Esq*; and from the advantage proposed thereby of improving Land by those methods, with very little manure, if Gentlemen would thoroughly adopt that method upon a large scale of practice, doubtless it would become universal, and from the great quantity of Seed proposed to be saved by this method, and a larger crop produced, must in the end be a very great advantage to this Nation; many may object, that the inclosed commons, will very little of it become Dairy-Land for a considerable time; yet it will certainly come in, in time,

and the more Arable Land is brought into use, certainly the greater proportion of Grass Land may be spared for the Dairy. One great impediment to inclosures is the great expence of Acts of Parliament, this might be remedied in a great measure, if Government would grant one general Act for inclosing commons throughout the Kingdom, under the direction of County Committees, which might be appointed for that purpose at a moderate expence, and fully answer the design, but as a hint at the improvement, is the only thing I can advance toward it, yet, like the Widows mite, I would not withhold it, as it may encourage more capable Persons to take it in hand.





S O M E A C C O U N T,
O F
N O X I O U S, B I T T E R, and P O I S O N O U S,
P L A N T S.

R I B W O R T, ribbed grafs, black plantain or cock plant; this plant may not properly be ranged among bitter plants, it not being bitter to any great degree, but I have often thought upon examination, that the bitternefs in some Cheese more refembles the tafte of this plant and dandelion than any other whatfoever, and in barren foils they are apt to prevail more than any other.

Arfmart, or lakeweed, is a bitter plant, well known; 'tis faid to produce an effential oil, or oil extracted by diffillation, which I fhould imagine more likely to affect the bitternefs of Milk than colder plants, it is apt to grow very ftrong after being
K 4 mowed,

mowed, and I have not observed that Cows refuse or leave it untouched more than other plants in common. I think this plant much more likely to cause the bitterness of Butter in *Autumn* than the falling leaves to which it is generally referred, though many people are of opinion that Cows eating ash leaves in *Autumn*, causes the bitterness in Butter.

Meadow-sweet — is a bitterish plant that Cows are fond of, especially the sort that grows on up-lands, commonly called dropwort, the meadow-sweet of low-meadows is a sort they do not readily feed on where there is plenty of Grass.

Centaury, lesser centaury or gentian, is an extream bitter plant, bears a pale red blossom with many florets, or pips, on an upright stem in old Pastures, blows from *June* to *August*, I should imagine it must be hurtful in Dairy-ground being a very penetrating bitter.

Hemlock, with stems and branches, spotted

ted with brown, or black, and white flower; the whole plant is poisonous, it grows in hedges, orchards, or among rubbish, and is very common.

Henbane, with blossoms purple & brown—indented leaves, embracing or cleaving to the stem, grows on road sides or among rubbish, the seeds, roots, and leaves taken internally are all poisonous.

Nightshade, grows in moist brakes and hedges, with bluish blossoms, sometimes inclined to flesh colour, sometimes white.

Deadly nightshade—dwale.-- or belladonna is the worst specie, growing in woods, hedges, among lime-stone or rubbish; the stem is herbaceous or of a herby nature, the leaves, spear, or halbert shaped, the flowers of a bluish purple with a bright yellow thrum, chives, or pointal, appearing like the snuff of an expiring Candle, the berries grow in very handsome bunches, first green, then a fine red, next a beautiful black, are very tempting to Children having
cost

cost many their Lives, causing stupor, delirium, and convulsions, and are certain Death if not prevented by timely and plentiful vomiting; this plant cannot be too well known being so very common in most Countries, and so tempting, both to Children and Cattle.

Cow-bane, water-virola, or water-hemlock — with rundles or flower branches opposite the leaves, leaf-stalks with blunt borders, with about seven pair of little leaves, which are variously divided and indented, petals, or leaf of the flower, yellowish pale green, grows in shallow waters, is a perennial plant, or that continues from year to year, blows in *July*; this is one of the rankest of our vegetable poisons; numerous instances are recorded of its Fatality to the human species; an account of it may be seen and an engraving in Martin's Philosophical Transactions, Vol. 10. Early in the spring when it grows in the water, Cows often eat it and are killed by it, but as the Summer advances and its smell becomes stronger, they carefully avoid it; though a certain
fatal

fatal poison to Cows, Goats devour it greedily and with impunity, Horses and Sheep eat it with safety,

Cow-weed, or wild Cecily, grows in hedges, blows in *May*, or *June*, with white flowers, roots like a Parsnip, and is very poisonous.

Water-wort, Water-hemlock, or Water-skeleton, is esteem'd a fatal poison to Horses, occasioning them to become paralytick, which is owing to an insect called *Curcutia Paraplecticus*, which generally inhabits within the stem; the usual antidote is pig's dung, the branches of the leaves stradling — stem very thick, hollow, scored, petals or flowers white, grows in rivers, ditches and pools, blossoms in *June*; in the Winter the roots and stem dissected by the influence of the weather, afford a curious skeleton, or network.

Kex, or water-parship, with white flowers in *July* or *August*, grows in rivers and fens, is very noxious to Cattle; also the lesser

fer Kex called upright water-parfnip, in rivers and ditches, is very common; blossoms in *July* and *August*, leaves halbert shaped, rundles or flower-branch opposite the leaves.

Drop-wort, or dead tongue, grows on the banks of rivers, bears a white flower in *June*, the petals or leaves of the flower sharp — bent inwards, tips purple or brown — the whole of this plant is poisonous, the stem is a yellowish red, the leaves smooth, streaked, jagged at the edges, the root is the rankest and most virulent of all vegetable poisons.

Mithridate — or penny-crefs, grows in corn fields with oblong leaves, toothed, smooth, white blossoms; the whole plant has something of a garlick flavour, the seeds have the acrimony or sharpness of mustard; Cows are rather fond of it, and I should think their Milk is often affected by it.

Penny-wort, or white-rot, grows in marshy springy ground, with a pale red flower, blows in *May*; many Farmers suppose it occasions the rot in Sheep, but I should expect that complaint proceeds from a very different

different cause; though, if flowks that are supposed to be the certain cause of the Rot, or the spawn of them, are taken in with the food of Sheep, as some imagine, it is possible the Ova, or Eggs of this Insect may be deposited in this plant, which to know, may be worth the Farmer's enquiry.

Some Account of the RUNNET PLANT.

YELLOW Verum—Goose-grass; the Leaves growing by eights, or eight leaves round the stem. 1 rap-shaped—furrowed—the flowering branches short, blossoms yellow.

English Names, are yellow ladies bedstraw or Cheese Renning, or petty muguet; it grows in dry ground, on road sides, very common, is perennial, blows in *July* or *August*. The flowers will coagulate boiling Milk, and some *Cheshire* Cheese is said to be made with them; according to an experiment from *Borrchius* they yield an Acid by distillation. The *French* prescribe them
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in hyfterick and epileptick cafes, boiled in Allum water they tinge wooll yellow, the roots dye a very fine red, not inferior to Madder and are ufed for this purpofe in the *Island of Jura*. See *Pennant's Tour*, 1772, Page 214. Sheep and Goats eat it, Horses and Swine refuse it, Cows are not fond of it. If the roots will answer the fame purpofe as Madder it highly merits the obfervation of *Calico Printers* and others, who ufe large quantities of that Article, as it is the moft common weed, and what in the month of *July*, there is more of, than any other weed, and if the flowers will dye yellow, and make Cheefe, it muft be a very valuable Plant and be a great help to the Poor to collect it. as it grows on all road fides, old pastures and hedges in great abundance.

I have omitted giving the Latin names of Plants, not having fufficient knowledge in that Language; but fuch of my learned readers who wifh for that addition, may refer either to *Dr. Withering's*, or other books on *Botany*, to *Chambers*, *Croker*, or other Dictionaries.

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E R R A T A.

Page 127 line 2d for Alclaine, read Alcaline.
 — 127 line 9th for Alcalics, read Alcalies.



